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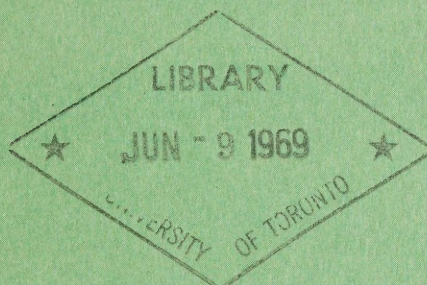
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DEPARTMENT OF ENERGY, MINES AND RESOURCES
Ottawa



OCEAN WEATHER STATION 'P' NORTH PACIFIC OCEAN

September 15 to December 7, 1967

No. 3

1969 Data Record Series

Canada
(Canadian) Oceanographic Data Centre

Programmed by the
Canadian Committee on Oceanography

1969

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OCEAN WEATHER STATION 'P'

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CODC References: 02-67-007

02-67-009

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Canadian Oceanographic Data Centre

615 Booth St., Ottawa, Canada

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FISHERIES RESEARCH BOARD OF CANADA

Ocean Weather Station "P" North Pacific Ocean

Ships:	CCGS "Vancouver"	CCGS "Quadra"
Local cruise designations:	P-67-4	Patrol No. 1
CODC cruise reference nos:	02-67-007	02-67-009
Cruise periods:	Sept. 15-Oct. 26, 1967	Oct. 20-Dec. 7, 1967
Scientist-in-Charge:	J. Wong	
Observers:	K.A. Gantzer B.G. Minkley	Ship's crew

PACIFIC OCEANOGRAPHIC GROUP, Nanaimo, B.C.

SECTION I

Description of data collection procedures



Figure 1.

The Canadian Weather Ship CCGS "Vancouver"

Photo by
Canadian Hydrographic Service
Victoria, B.C.



Figure 2.

The Canadian Weather Ship CCGS "Quadra"

Photo by
Canadian Hydrographic Service
Victoria, B.C.

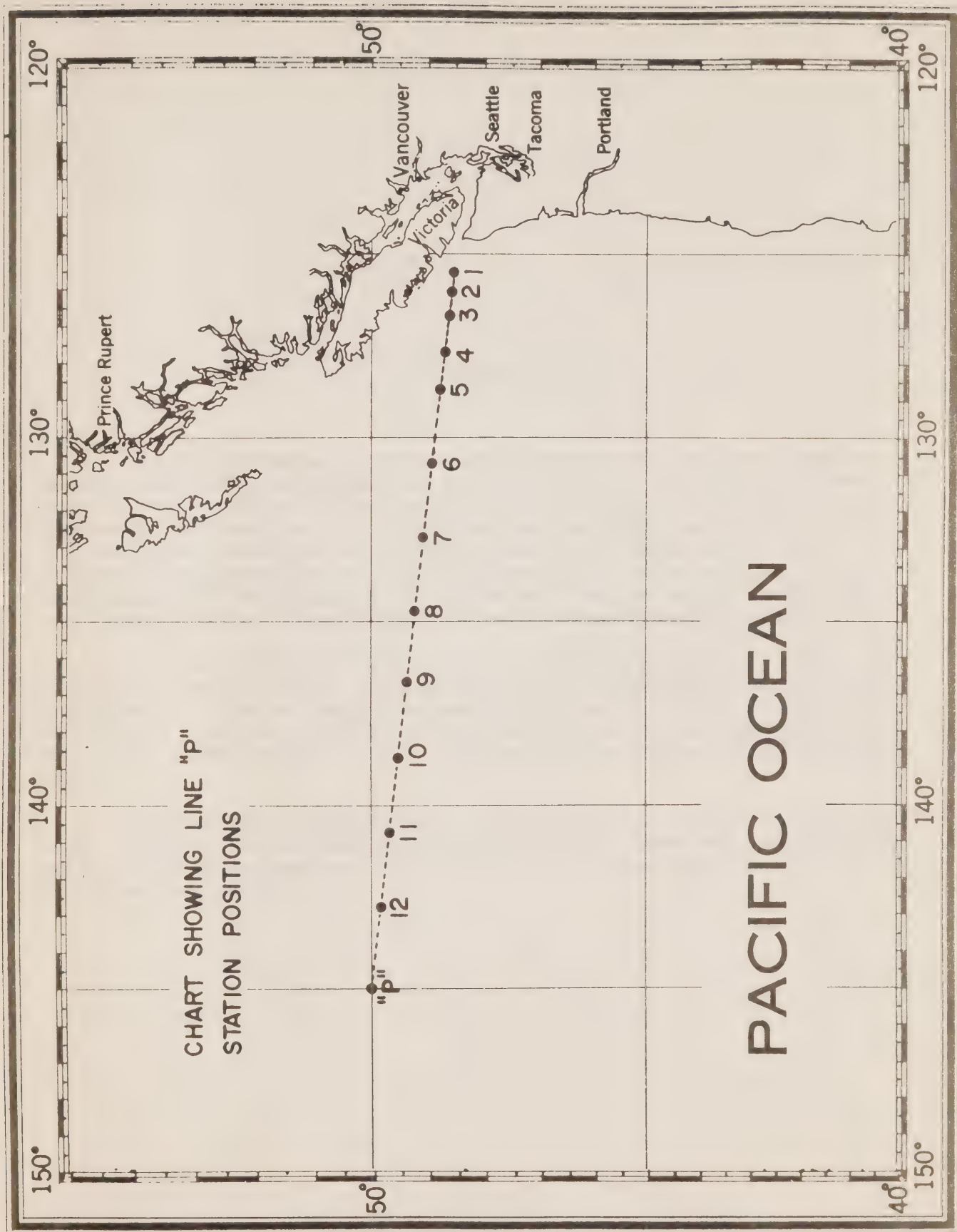


Figure 3.

INTRODUCTION

Canadian operation of Ocean Weather Station "P" (latitude 50°00'N, longitude 145°00'W) was inaugurated in December 1950. The Station is manned by two vessels operated by the Marine Services Branch of the Department of Transport. They are the CCGS "Vancouver" and the CCGS "Quadra" (Fig. 1 and 2). Each ship remains on Station for a period of 6 weeks, and is then relieved by the alternate ship, thus maintaining a continuous watch. The chief purpose of the Station is to operate as a meteorological station for surface and upper-air observations, and as an air-sea rescue station.

The CCGS "Vancouver" is completely equipped with deck and laboratory facilities required to make bathythermograph and oceanographic observations. Oceanographers from the Pacific Oceanographic Group accompany the ship on each patrol. The CCGS "Quadra" is equipped with bathythermograph equipment only. The BT observations on both ships are made by members of the ship's crew.

Bathythermograph observations have been made at Station "P" since July 1952. A program of oceanographic observations was commenced in August 1956, and it has been increased and altered to suit the requirements for new and additional information.

CRUISE LOG, CCGS "VANCOUVER", SURVEY P-67-4

Sept. 16: departed from Esquimalt, B.C.; no BT observations made enroute to Station "P", owing to delay caused by ship's electronic equipment.

Sept. 18: rendezvous with CCGS "Stonetown".

Sept. 19: arrived Station "P". Commenced BT stations and regular observations.

Oct. 23: relieved by CCGS "Quadra" and proceeded on the return journey. A total of 206 BT observations were made by the ship's crew during the patrol.

Oct. 26: docked at Victoria Machinery Depot.

OBSERVATIONAL PROCEDURES

During survey P-67-4, water samples and temperatures were obtained at depth with Nansen water sample bottles equipped with either Richter and Wiese or Yoshino reversing thermometers. Surface samples (0 m) were obtained in a one-gallon rubber bucket. The surface temperature was measured in this bucket with a thermometer graduated in 0.5 C intervals.

Station locations were determined by the officers of the watch, who also made the meteorological observations reported with the oceanographic data.

LABORATORY PROCEDURES

The salinity determinations of the oceanographic station samples from survey P-67-4, and of the daily surface samples taken in conjunction with the BT observations from both ships, were made with an inductive salinometer, Model 601 MK III, Auto-Lab Industries. Most of the oceanographic station samples were analysed on board "Vancouver". The salinity data are the means of duplicate determinations, and are considered to have an accuracy at the 35‰ salinity level of $\pm 0.003\%$ (Brown and Hamon, 1961).

The conversions from conductivity ratio to salinity were made from tables supplied by the manufacturer of the salinometer. These tables are derived from the report by Thomas, Thompson and Utterback (J. Cons. Vol. 9, 1934) and from calculations made by A.P. Francischetti, U.S. Intl. Ice Patrol.

The dissolved oxygen analyses were done in the shipboard laboratory by a modified Winkler method (Strickland and Parsons, 1965). The data are the means of duplicate determinations.

BATHYTHERMOGRAPH OBSERVATIONS

BT observations to 275 m depth were made from "Vancouver" every 3 hours during the patrol. The "Quadra" made 4 BT observations during the journey to Station "P", and took a total of 232 observations to 275 m every 3 hours whilst on station. No BT observations were made on the ingoing trip.

The bathythermograms have been prepared by the Canadian Oceanographic Data Centre in their BT-aperture card format (Sauer, 1964), and copies are available from the Centre. The bathythermograms presented in Section IV of this data record were reproduced from the BT-aperture cards. The consecutive number entered below each bathythermogram refers to an entry in Table 1 (P-67-04) or Table 2 (Patrol No. 1) which list the information concerning time/date, position, and associated meteorological information.

PERSONNEL

The scientist-in-charge of the Station "P" program was Mr. J. Wong. The oceanographers on board "Vancouver" during survey P-67-4 were Mr. K.A. Gantzer and Mr. B.G. Minkley.

The master of the ship was Captain J.H. Linggard. The ships' crews made the BT observations.

SECTION II

Description of the machine-generated data record

INTRODUCTION

This section applies to the machine processing phase of the data reduction and computation.

The oceanographic data previously recorded on CODC data summary forms, a sample of which is shown on the next page, are transferred to punch-cards for subsequent electronic data processing on an IBM 1620 computer, using CODC's OCEANS II program. In addition to computing routine derived quantities, the program carries out unit and format conversions, range checks, plausibility tests, internal editing, and if required, interpolation at standard oceanographic depths. When interpolations are carried out, additional derived values are computed.

After the data have been processed, the data record is prepared using an IBM 1401 computer configuration with the OCEAN REPORT III program, which provides for pre-edited high speed print-out on continuous direct-image masters. These masters subsequently yield the required volume of copies for distribution.

Provision has been made to enter an "**estimate of precision**" for each observed variable selected for interpolation at standard oceanographic depths. The precision depends on the instrument and/or technique used to determine the variable. A standard precision stated as a **standard deviation** (σ) can be determined for each instrument or technique under routine field conditions by making duplicate determinations of the variables for a homogeneous sample of sea water. These standard deviations are given for each cruise under "GENERAL INFORMATION" in section III of the data record.

The **measurement error estimate** of a specific observation in this data record, is stated as a multiple of the standard deviation derived as above, and entered in a column immediately to the right of the reported variable. In order to distinguish it from an additional decimal digit, the measurement error estimate is recorded alphabetically, (i.e., $1\sigma = A$, $2\sigma = B$, etc.; in this data record "A" is suppressed).

An option is provided with respect to the measurement of the salinity variable. If observed to three decimal digits, the last digit takes the place of the measurement error estimate.

In the past, a number of methods for both manual and machine interpolation have been developed. Studies and comparisons of the several methods have shown that no single method is universally acceptable. The manual methods are the most elaborate and flexible, but often require subjective decisions. In machine interpolation, all the present methods fail to yield acceptable results under some circumstances. Hence, it is considered necessary to qualify interpolated values by stating an "**interpolation error estimate**" derived from the particular interpolation formula used. There are two purposes in stating the error estimates; **first**, to give an indication of the quality of the interpolated data; **second**, to allow the oceanographer to redesign his observational procedures in order to reduce interpolation errors in future observations.

The interpolation scheme chosen for the OCEANS II program consists of a combination of two 3-point interpolations using the Lagrangian interpolation polynomial, as recommended by Rattray (1962). A parabola is fitted through three values of a given variable (T, S, O_2) considered as a function of depth. The two interpolation parabolas require a total of four points (observed depths). The middle points are common to both parabolas. The average of the two values obtained from the parabolas at standard depth is taken as the interpolated value, and a function of their difference as an estimate of the interpolation error.

This function combined with the "**measurement error estimate**" comprises the "**combined measurement and interpolation error estimate**". It is expressed as a multiple of the standard deviation of measurement (σ) under normal routine field conditions by:

17

34 35

25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

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$$\frac{\sigma_i}{\sigma} = \left\{ \frac{(\Delta V_i)^2}{\sigma^2} + \sum_{n=j-2}^{j+1} (\gamma_n)^2 \left(\frac{\sigma_n}{\sigma} \right)^2 \right\}^{1/2}, \text{ where}$$

σ = Standard deviation of the combined error estimates at standard oceanographic depth,
 ΔV_i = the interpolation error estimate of variable "V" at standard oceanographic depth = $\frac{1}{2} (V_{i_1} - V_{i_2})$,
 γ_n = Interpolation polynomial coefficient.

Z_j = Observed depth.

Z_i = Standard oceanographic depth, such that: $Z_{j-2} < Z_{j-1} < Z_i < Z_j < Z_{j+1}$

The integral part of the fraction $\frac{\sigma_i}{\sigma}$, if ≥ 2 , is reported in this Data Record following the interpolated variable. It represents the **combined measurement and interpolation error estimate**. In order to distinguish it from an additional decimal digit, it is recorded alphabetically (e.g.: 2 as "B", 3 as "C", etc.).

With respect to the interpolated value of the salinity variable if reported to three decimal digits, the **interpolation error estimate** is given only when $\frac{\sigma_i}{\sigma} \geq 2$ (the salinity is then recorded to two decimal places). If less than 2, the mean obtained from the two interpolation parabolas is reported to three decimal places.

EXPLANATION OF DATA RECORD HEADINGS

MASTER HEADINGS

(1) C-REF-NO	(6) YR	(11) DEPTH	(16) WAVES 1	(21) AIR T	(26) VIS
(2) CONS. NO	(7) MONTH	(12) MXSAMPD	(17) WAVES 2	(22) WET B	(27) STN
(3) LAT	(8) DAY	(13) NO. DPTH	(18) WND-DIR	(23) ww-CODE	
(4) LON	(9) HR	(14) W-COLOR	(19) WND-FCE	(24) CLD-TPE	
(5) MARSD SQ	(10) C/I	(15) W-TRNSP	(20) BARO	(25) CLD-AMT	(28) HW

- (1) CRUISE REFERENCE NUMBER: Assigned by the Institute. Commences with 001 at the beginning of each year (effective Jan. 1, 1963). Prior to that date the CRN was a number designated by CODC.
- (2) CONSECUTIVE NUMBER: Indicates the chronological order in which the stations were occupied.
- (3) LATITUDE: Indicate the position of the platform at the time of observation.
- (4) LONGITUDE:
- (5) MARSDEN SQUARE: Designates the geographic area code of the observation (see Marsden square chart).
- (6) YEAR:
- (7) MONTH:
- (8) DAY:
- (9) HOUR: The time (Greenwich Mean Time) at which the surface environmental data were recorded. It is reported to tenths of hours (Table 1).
If an "X" precedes the value for HOUR, (prior to Jan. 1, 1963) it indicates that the reported time is doubtful.
- (10) COUNTRY/
INSTITUTE: The International Geophysical Year (IGY) Country Code/Institute Code - see Table 11.
- (11) DEPTH: The sounding reported in metres. If corrected, this is stated in the "GENERAL INFORMATION" chapter of section III. Charted depths are preceded by the letter "C".
- (12) MAXIMUM
SAMPLING DEPTH: A code to indicate the deepest sampling depth (used for high speed sorting).
00 m - 50 m = 00
51 m - 150 m = 01
151 m - 250 m = 02
etc.

- (13) NUMBER OF DEPTHS: The number of levels observed (this is entered to initiate a computer safety check, guarding against the loss of punch-cards).
- (14) WATER COLOUR: A code based on the percentage of yellow (see table 2 and Note under FIELD "15" below).
- (15) WATER TRANSPARENCY: The depth in metres at which a Secchi disc (white disc, 30 cm. in diameter) just disappears from view, or the optical density expressed in percentage;
- NOTE: The "GENERAL INFORMATION" chapter in section III of the data record will state which method was used.
- (16) WAVES 1
($d_w d_w P_w H_w$ -code): The direction, period and height of the **wind-propagated** wave system. (See Tables 3, 4 and 5). Ref: World Meteorological Organization Codes 0885, 3155, 1555.
- (17) WAVES 2
($d_w d_w P_w H_w$ -code): The direction, period and height of the predominant **non-wind-propagated** wave system. (See Tables 3, 4 and 5). Ref: World Meteorological Organization Codes 0885, 3155, 1555.
- (18) WIND DIRECTION: The true direction to the nearest 10 degrees from which the wind is blowing (wind direction 990 means:—wind variable or direction unknown).
- (19) WIND FORCE (WND-FCE): Beaufort notation (See Table 6).
- WIND SPEED (WND-SPD): Anemometer reading reported in metres per second. Instrument height reported in "GENERAL INFORMATION" chapter of section III.
- (20) BAROMETER: The barometric pressure reported in millibars: the "GENERAL INFORMATION" chapter in Section III of the data record will state the type of instrument used.
- (21) AIR TEMPERATURE: In degrees Celsius.
- (22) WET BULB: In degrees Celsius.
- (23) ww CODE: Present Weather Code (See Table 7). Ref: WMO Code 4677
- (24) CLOUD TYPE: The type of predominating clouds (See Table 8). Ref: WMO Code 0500.
- (25) CLOUD AMOUNT: The sky coverage in eighths (See Table 9) Ref: WMO Code 2700
- (26) VISIBILITY: Visibility at the surface (See Table 10). Ref: WMO Code 4300.
- (27) STATION: A station reference number, assigned by the institute prior to, or during the survey.
- (28) HOURS AFTER HIGH WATER: Indicates the state of the tide for nearshore observations.

OBSERVED DATA HEADINGS

(1) GMT	(2) DEPTH	(3) TEMP	(4) SAL	(5) OXYGEN	(6) SGMT
(7) SOUND	(8) PO_4	(9) -P-	(10) NO_2	(11) NO_3	(12) SiO_3
				(13) pH.	

NOTE: Headings (1) to (7) will always be present. Headings (8) to (13) appear only when one or more additional chemical entries were made.

(1) G.M.T.: The Greenwich Mean Time of (in-situ) thermometer inversion and sea water sample collection.

When a multiple cast was initiated prior to and continued after midnight, the times indicated are uninterrupted by the change of day and appear beyond 24.0 hours. This will be accompanied by a statement: "MULTIPLE CAST CONTINUED NEXT DAY", which is printed following the last level of observed values.

(2) DEPTH: The depth in metres at the reversal time of deepest cast.

(3) TEMPERATURE. Temperatures from deepsea reversing thermometers, read to 0.01° C. Surface temperature measurement procedures are described in the chapter "OBSERVATION PROCEDURES" of section I, and/or the "GENERAL INFORMATION" chapter of section III. An alphabetical character following the temperature value represents the measurement error estimate referred to in the INTRODUCTION to this section.

(4) SALINITY: Salinity as defined by: $S = 0.03 + 1.805 C1\%$, reported in:
 a. 1/100 parts per 1000, or
 b. 1/1000 parts per 1000.

In case a: an alphabetical character following the value is the measurement error estimate as referred to under (3).

In case b: no error estimate indication is provided for, but an additional decimal digit takes its place.

(5) OXYGEN: The concentration of dissolved oxygen expressed in millilitres per litre to 2 decimal places. An alphabetical character following the value is the measurement error estimate as referred to under (3).

(6) SIGMA-T: The specific gravity anomaly as defined by: $(\text{Specific gravity} - 1) \times 10^3$ (e.g., σ_t reported as 2456, reads 24.56, and corresponds to a specific gravity of 1.02456).

(7) SOUND: The sound velocity is reported in m/sec. to 1 decimal place (e.g., 1437.9 m/sec.). The computation is carried out using Wilson's formula (1960), expressed in terms of temperature, salinity and total pressure.

(8) PO ₄	Phosphate-Phosphorus reported to hundredths of microgram-atoms per litre.
(9) -P-	Total Phosphorus reported to hundredths of microgram-atoms per litre.
(10) NO ₂	Nitrite-Nitrogen reported to hundredths of microgram-atoms per litre – No dissolved nitrogen included –
(11) NO ₃	Nitrate-Nitrogen reported to tenths of microgram-atoms per litre.
(12) SiO ₄	Silicate-Silicon reported in whole microgram-atoms per litre.
(13) pH	The pH value.

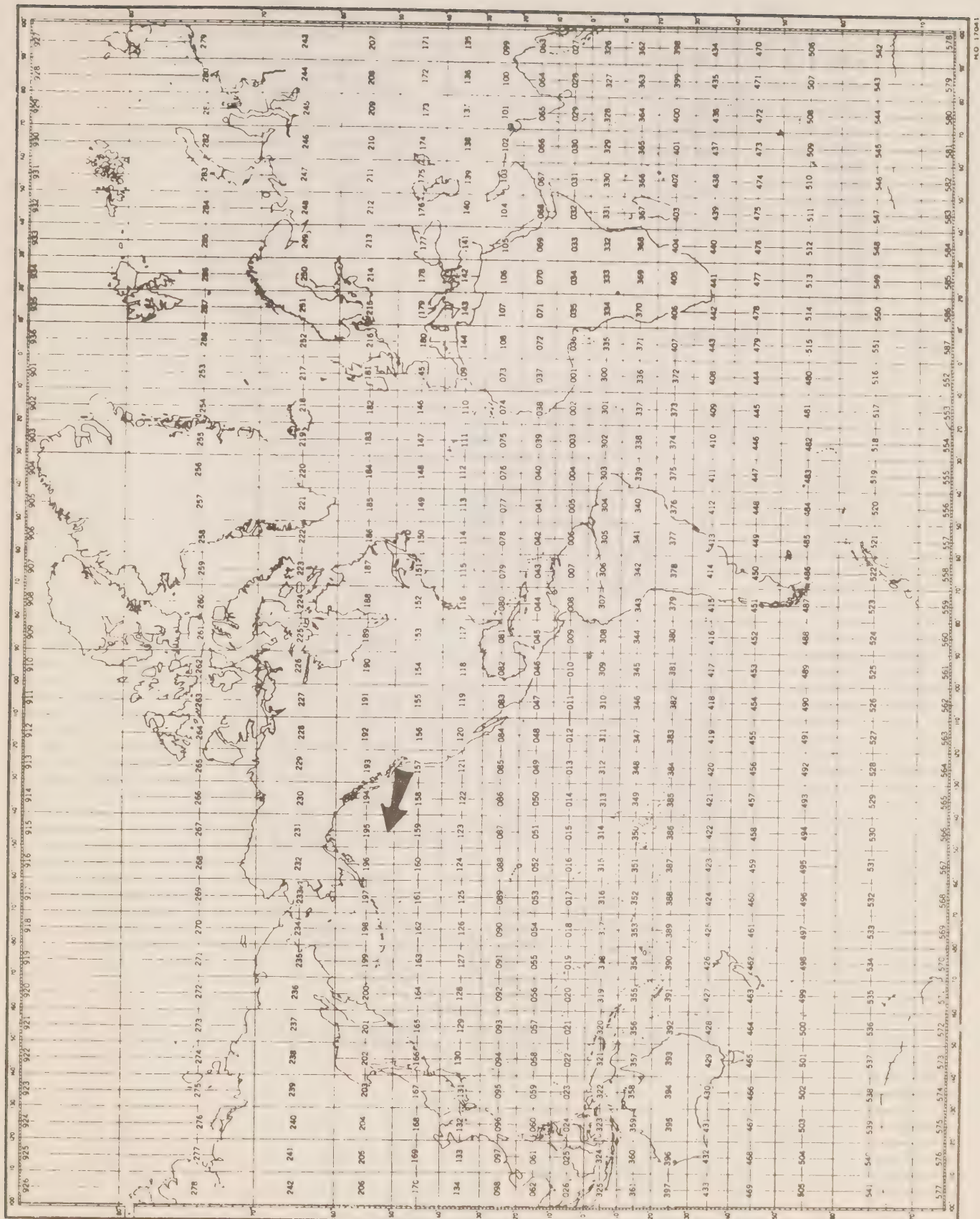
NOTE: "TRC" (trace) is reported when a chemical entry has a value less than the standard deviation of measurement for that particular variable.

INTERPOLATED DATA HEADINGS

(1) DEPTH	(2) TEMP	(3) SAL	(4) OXYGEN	(5) SGMT	(6) SOUND
(7) DELTA-D	(8) POT-EN	(9) SVA.			

- (1) DEPTH: Standard Oceanographic Depth in whole metres, as well as additional depths: 125, 175, 225, 3500, 4500, 5500, 6500, 7500, 8500, 9500.
- (2) TEMPERATURE: Interpolated value at standard depth, followed by the **combined measurement and interpolation error estimate** (see "INTRODUCTION" to section II of the data record).
- (3) SALINITY:
- A. The reported salinity values are measured to three decimal places.
 - (i) the interpolation error estimate is less than twice the standard deviation of measurement
 - the interpolated value is reported to three decimal places (e.g., 30.139).
 - (ii) the interpolation error estimate is equal to or greater than twice the standard deviation of measurement.
 - the interpolated value is reported to two decimal places, and followed by the **interpolation error estimate** (e.g., 29.23 C).
 - B. The reported salinity values are measured to two decimal places and followed by the measurement error estimate.
 - the interpolated value is reported to two decimal places, and followed by the **combined measurement and interpolation error estimate** (e.g., 30.59 B).
- (4) OXYGEN: Interpolated value at standard depth, followed by the **combined measurement and interpolation error estimate** (see "Introduction" to section II of the data record).

- (5) SIGMA-T: Computed from temperature and salinity values at standard oceanographic depth.
- (6) SOUND VELOCITY: Computed from temperature, salinity and total pressure values at standard oceanographic depth, using Wilson's formula (1960).
- (7) DELTA-D: The geo-potential anomaly as defined by:
- $$\Delta D = \int_0^P \delta dp$$
- ΔD is expressed in dynamic metres (10^5 ergs/gram) and recorded to three decimal places (e.g., 2.345 dyn. metres).
- (8) POTENTIAL ENERGY ANOMALY: The Potential energy anomaly χ as defined by:
- $$\chi = \frac{1}{g} \int_0^P p \delta dp = \int_0^Z \rho p \delta dz$$
- χ is expressed in units of 10^8 ergs/cm² and recorded to two decimal places (e.g., 116.44).
- (9) SPECIFIC VOLUME ANOMALY: The specific volume anomaly as defined by:
- $$\delta = \alpha - \alpha_{35.0.P}$$
- δ is expressed in ml/gr, and conventionally reported as $10^5 \delta$, to one decimal place (i.e., δ reported as 1234, reads 123.4, and corresponds to a specific volume anomaly of 0.001234 ml/gr.).



MARDEN SQUARE CHART

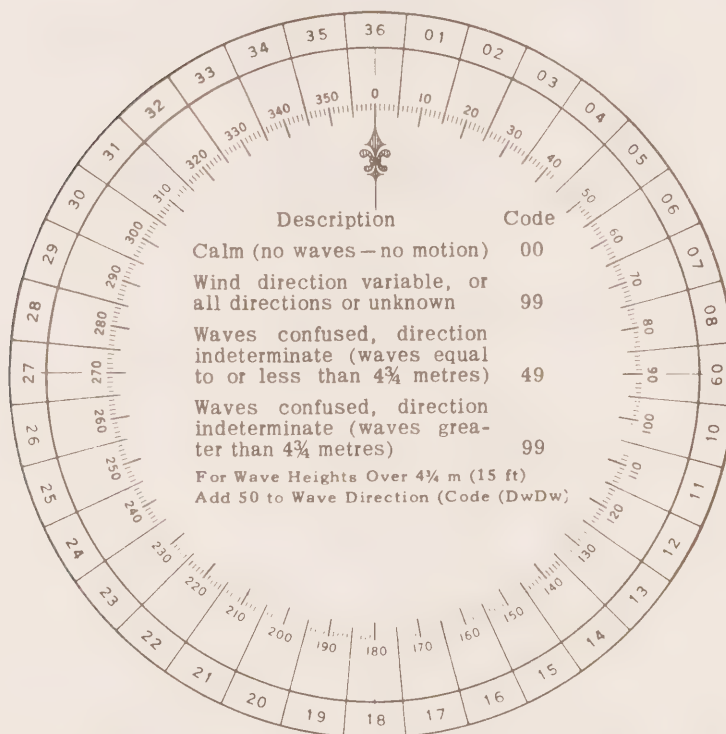
Table 1
CONVERSION
MINUTES TO $\frac{1}{10}$ HRS.

Minutes	Tenths Hrs.
00-03	0
04-08	1
09-15	2
16-20	3
21-27	4
28-32	5
33-39	6
40-44	7
45-51	8
52-56	9
57-59	0 (next HR.)

Table 2
WATER COLOR CODE
Based on Percentage Yellow

Code:	Description
00	Deep Blue
10	Blue
20	Greenish Blue
30	Bluish Green
40	Green
50	Light Green
60	Yellowish Green
70	Yellow Green
80	Green Yellow
90	Greenish Yellow
99	Yellow

Table 3. DIRECTION CODE (dd)



NOTE:

Always use the true direction from which the wind is blowing, or the direction from which Waves I (sea), or Waves II (swell) come.

Table 4. PERIOD OF THE WAVES (P_w)
(Measure to the Nearest Second)

Code:	Period in Seconds:	Code:	Period in Seconds:
2	5 sec. or less	8	16 or 17 sec.
3	6 or 7 sec.	9	18 or 19 sec.
4	8 or 9 sec.	0	20 or 21 sec.
5	10 or 11 sec.	1	Over 21 sec.
6	12 or 13 sec.	X	Calm, or period not determined
7	14 or 15 sec.		

Table 5. HEIGHT OF THE WAVES (H_w)

- The average value of the wave height (vertical distance between trough and crest) is reported, as obtained from the larger well formed waves of the wave system being observed.
- Each code figure provides for reporting a range of heights. For example: 1 = $\frac{1}{4}$ m (1 ft) to $\frac{3}{4}$ m ($2\frac{1}{2}$ ft); 5 = $2\frac{1}{4}$ m (7 ft) to $2\frac{3}{4}$ m (9 ft); 9 = $4\frac{1}{4}$ m ($13\frac{1}{2}$ ft) to $4\frac{3}{4}$ m (15 ft), etc.
- If a wave height comes exactly midway between the heights corresponding to two code figures, the lower code figure is reported; e.g. a height of $2\frac{3}{4}$ m is reported by code figure 5.

Code			Code
0	Less than ¼ m (1 ft)	Add 50 to Dw Dw	0 5 m (16 ft)
1	½ m (1½ ft)		1 5½ m (17½ ft)
2	1 m (3 ft)		2 6 m (19 ft)
3	1½ m (5 ft)		3 6½ m (21 ft)
4	2 m (6½ ft)		4 7 m (22½ ft)
5	2½ m (8 ft)		5 7½ m (24 ft)
6	3 m (9½ ft)		6 8 m (25½ ft)
7	3½ m (11 ft)		7 8½ m (27 ft)
8	4 m (13 ft)		8 9 m (29 ft)
9	4½ m (14 ft)		9 9½ m (30½ ft) or more
x	Height not determined		

Table 6. WIND FORCE CODE

The Beaufort force of the wind is estimated from the appearance of the sea surface, according to the table below. This table is only intended as a guide to show roughly what may be expected on the open sea, remote from land. Factors which must be taken into account are the "lag" effect between the wind increasing and the sea getting up; and the influence of "fetch", depth, swell, heavy rain and tide effect on the appearance of the sea. Estimation of the wind force by this method becomes unreliable in shallow water or when close inshore, owing to the tidal effect and the shelter provided by the land.

Code	Appearance of sea if fetch and duration of the blow have been sufficient to develop the sea fully	Description
00	Sea like a mirror	Calm
01	Ripples with the appearance of scales are formed, but without foam crests.	Light Air
02	Small wavelets; crests have a glassy appearance and do not break.	Light Breeze
03	Large wavelets; crests begin to break; foam of glassy appearance; perhaps scattered white horses.	Gentle Breeze
04	Small waves, becoming longer; fairly frequent white horses.	Moderate breeze
05	Moderate waves; many white horses are formed (chance of some spray)	Fresh Breeze
06	Large waves; white foam crests everywhere (probably some spray)	Strong Breeze
07	Sea heaps up and white foam from breaking waves begins to be blown in streaks along the direction of the wind.	Near Gale
08	Moderately high waves; edges of crests begin to break into the spindrift; foam is blown in well-marked streaks along the direction of the wind.	Gale
09	High waves; dense streaks of foam along wind; crests begin to topple, tumble and roll over; spray may affect visibility.	Strong Gale
10	Very high waves with long overhanging crests; foam in great patches blown in dense white streaks along wind; sea surface takes a white appearance; tumbling becomes heavy and shock-like; visibility affected.	Storm
11	Exceptionally high waves (medium sized ships may be lost to view behind waves); sea covered with long white patches of foam lying along the wind; everywhere edges of crests are blown into froth; visibility affected.	Violent Storm
12	Air is filled with foam and spray; sea completely white with driving spray; visibility seriously affected.	Hurricane

Table 7. PRESENT WEATHER

W.W. CODE

NO PRECIPITATION ON STATION AT TIME OF OBSERVATION

Code figure ww			
No meteors except photometeors	00	Cloud development not observed or not observable	characteristic change of the state of sky during the past hour
	01	Clouds generally dissolving or becoming less developed	
	02	State of sky on the whole unchanged	
	03	Clouds generally forming or developing	
Haze, dust, sand or smoke	04	Visibility reduced by smoke, e.g. veldt or forest fires, industrial smoke or volcanic ashes	
	05	Haze	
	06	Widespread dust in suspension in the air, not raised by wind at or near the station at the time of observation	
	07	Dust or sand raised by wind at or near the station at the time of observation, but no well developed dust whirl(s) or sand whirl(s), and no duststorm or sandstorm seen	
	08	Well developed dust whirl(s) or sand whirl(s) seen at or near the station during the preceding hour or at the time of observation, but no dustorm or sandstorm	
	09	Duststorm or sandstorm within sight at the time of observation, or at the station during the preceding hour	
	10	Mist	
	11	Patches of } shallow fog or ice fog at the station, whether on land or sea, not deeper than about 2 metres on land or 10 metres at sea	
	12		More of less continuous }
	13	Lightning visible, no thunder heard	
	14	Precipitation within sight, not reaching the ground or the surface of the sea	
	15	Precipitation within sight, reaching the ground or the surface of the sea, but distant (i.e. estimated to be more than 5 km) from the station	
	16	Precipitation within sight, reaching the ground or the surface of the sea, near to, but not at the station	
	17	Thunderstorm, but no precepitation at the time of observation	
	18	Squalls	} at or within sight of the station during the preceding hour or at the time of observation
	19	Funnel clouds	
ww = 20 - 29			
	20	Drizzle (not freezing) or snow grains	} not falling as shower(s)
	21	Rain (not freezing)	
	22	Snow	
	23	Rain and snow or ice pellets, type (a)	
	24	Freezing drizzle or freezing rain	
	25	Shower(s) of rain	
	26	Shower(s) of snow, or of rain and snow	
	27	Shower(s) of hail, or of rain and hail	
	28	Fog or ice fog	
	29	Thunderstorm (with or without precipitation)	
ww = 30 - 39			
	30	} Slight or moderate duststorm or sandstorm	- has decreased during the preceding hour
	31		- no appreciable change during the preceding hour
	32		- has begun or has increased during the preceding hour
	33	} Severe duststorm or sandstorm	- has decreased during the preceding hour
	34		- no appreciable change during the preceding hour
	35		- has begun or has increased during the preceding hour
	36	Slight or moderate blowing snow	} generally low (below eye level)
	37	Heavy drifting snow	
	38	Slight or moderate blowing snow	} generally high (above eye level)
	39	Heavy blowing snow	
ww = 40 - 49			
	40	Fog or ice fog at the time of observation	
	41	Fog or ice fog at a distance at the time of observation, but not at the station during the preceding hour, the fog or ice fog extending to a level above that of the observer	
	42	Fog or ice fog in patches	
	43	Fog or ice fog, sky visible	} has become thinner during the preceding hour
	44	Fog or ice fog, sky invisible	
	45	Fog or ice fog, sky visible	} no appreciable change during the preceding hour
	46	Fog or ice fog, sky invisible	
	47	Fog or ice fog, sky visible	} has begun or has become thicker during the preceding hour
	48	Fog or ice fog, sky invisible	
	49	Fog, depositing rime, sky visible	
		Fog, depositing rime, sky invisible	

NO PRECIPITATION ON STATION AT TIME OF OBSERVATION

PRECIPITATION ON STATION AT TIME OF OBSERVATION

ww = 50 - 59 Drizzle		ww = 80 - 99 Showery precipitation, or precipitation with current or recent thunderstorm	
50	Drizzle, not freezing, intermittent	80	Rain shower(s), slight
51	Drizzle, not freezing, continuous	81	Rain shower(s), moderate or heavy
52	Drizzle, not freezing, intermittent	82	Rain shower(s), violent
53	Drizzle, not freezing, continuous	83	Shower(s) of rain and snow mixed, slight
54	Drizzle, not freezing, intermittent	84	Shower(s) of rain and snow mixed, moderate or heavy
55	Drizzle, not freezing, continuous	85	Snow shower(s), slight
56	Drizzle, freezing, slight	86	Snow shower(s), moderate or heavy
57	Drizzle, freezing, moderate or heavy (dense)	87	Shower(s) of snow pellets or ice pellets, type (b), with or without rain
58	Drizzle and rain, slight	88	or rain and snow mixed
59	Drizzle and rain, moderate or heavy	89	Shower(s) of hail, with or without rain or rain and snow mixed, not associated with thunder
ww = 60 - 69 Rain		90	Slight rain at time of observation
60	Rain, not freezing, intermittent	91	Moderate or heavy rain at time of observation
61	Rain, not freezing, continuous	92	Slight snow, or rain and snow mixed or hail at time of observation
62	Rain, not freezing, intermittent	93	Moderate or heavy snow, or rain and snow mixed or hail at time of observation
63	Rain, not freezing, continuous	94	Thunderstorm, slight or moderate, without hail, but with rain and/or snow at time of observation
64	Rain, not freezing, intermittent	95	Thunderstorm, slight or moderate, with hail at time of observation
65	Rain, not freezing, continuous	96	Thunderstorm, heavy, without hail, but with rain and/or snow at time of observation
66	Rain, freezing, slight	97	Thunderstorm, combined with duststorm or sandstorm at time of observation
67	Rain, freezing, moderate or heavy	98	Thunderstorm, heavy, with hail at time of observation
68	Rain or drizzle and snow, slight	99	
69	Rain or drizzle and snow, moderate or heavy		
70 - 79 Solid precipitation not in showers			
ww			
70	Intermittent fall of snow flakes		
71	Continuous fall of snow flakes		
72	Intermittent fall of snow flakes		
73	Continuous fall of snow flakes		
74	Intermittent fall of snow flakes		
75	Continuous fall of snow flakes		
76	Ice prisms (with or without fog)		
77	Snow grains (with or without fog)		
78	Isolated starlike snow crystals (with or without fog)		
79	Ice pellets, type (a)		

PRECIPITATION ON STATION AT TIME OF OBSERVATION

Table 8. CLOUD TYPE CODE

Code	Cloud Type	Code	Cloud Type
0	Cirrus Ci	5	Nimbostratus Ns
1	Cirrocumulus Cc	6	Stratocumulus Sc
2	Cirrostratus Cs	7	Stratus St
3	Alto cumulus Ac	8	Cumulus Cu
4	Altostratus As	9	Cumulonimbus Cb
X	Cloud not visible owing to darkness, fog, duststorm, sandstorm, or other analogous phenomena		

Table 9. CLOUD AMOUNT CODE

Code	Cloud Cover	Code	Cloud Cover
0	0	6	6 oktas
1	1 okta or less, but not zero	7	7 oktas or more, but not 8 oktas
2	2 oktas	8	8 oktas
3	3 oktas	9	Sky obscured, or cloud amount cannot be estimated
4	4 oktas		
5	5 oktas		

Note: 1 okta = $\frac{1}{8}$ of the sky covered

Table 10. VISIBILITY

Code	Estimate of hor. Visibility
0	Less than 50 metres (less than 55 yards)
1	50-200 metres (approx. 55-220 yards)
2	200-500 metres (approx. 220-550 yards)
3	500-1,000 metres (approx. 550 yards- $\frac{3}{4}$ n.m.)
4	1-2 km (approx. $\frac{3}{4}$ -1 n.m.)
5	2-4 km (approx. 1-2 n.m.)
6	4-10 km (approx. 2-6 n.m.)
7	10-20 km (approx. 6-12 n.m.)
8	20-50 km (approx. 12-30 n.m.)
9	50 km or more (30 n.m. or more)

Note: n.m. = nautical mile

TABLE 11. INSTITUTE CODE

Code	Institute
01	Marine Ecology Laboratory, Bedford Institute
02	Pacific Oceanographic Group
03	Biological Station, St. Andrews, N.B.
04	Arctic Biological Station, Ste. Anne de Bellevue, P.Q.
05	Biological Station, St. John's Nfld.
06	Station de Biologie Marine, Grande Riviere, P.Q.
07	Marine Sciences Branch, Central Region
08	Defence Research Establishment, Atlantic
09	Defence Research Establishment, Pacific
10	Atlantic Oceanographic Laboratory, Bedford Institute
11	Polar Continental Shelf Project
12	Great Lakes Institute
13	Institute of Oceanography, University of British Columbia
14	Institute of Oceanography, Dalhousie University
15	Marine Sciences Branch, Pacific Region
16	Department of Transport
17	Marine Sciences Centre, McGill University
18	Canadian Forces Maritime Command, East Coast
19	Canadian Forces Maritime Command, West Coast
20	Ontario Water Resources Commission
21	Dept. of National Health and Welfare
22	Inland Waters Branch, Dept. of Energy, Mines and Resources.

SECTION III

Serial oceanographic data

GENERAL INFORMATION

<u>Institute:</u>	Pacific Oceanographic Group, Nanaimo, B.C.
<u>Observation platform:</u>	CCGS "Vancouver"
<u>Vessel's cruising speed:</u>	18 knots
<u>Total number of stations occupied:</u>	10
<u>Anemometer height above sea level:</u>	19 metres
<u>Water transparency:</u>	Secchi Disc
<u>Barometer readings:</u>	Aneroid Barometer (corrected)
<u>Air temperature:</u>	Sling Psychrometer
<u>Wet bulb temperature:</u>	Sling Psychrometer
<u>Surface sea water temperature:</u>	Bucket sample (deck thermometer)
<u>Depth to bottom:</u>	U.S. Coast & Geodetic Survey Chart 8500

The following Standard Deviations were used to express both measurement and interpolation error estimates:

Temperature	0.02
Salinity	0.003
Oxygen	0.03

C-REF-NO 007	YR 1967	DEPTH C 4220	WAVES 1 2021	AIR T 13.8	VIS 7
CONS. NO 001	MONTH 9	MXSAMPD 05	WAVES 2 2734	WET B 12.1	STN 401
LAT 50-07 N	DAY 19	NO.DPTH 16	WND-DIR 200	WW-CODE 03	
LON 144-56 W	HR 23.7	W-COLOR 30	WND-SPD 04	CLD-TPE 8	
MARSD SQ 195	C/I 1802	W-TRNSP 11	BARO 1015.1	CLD-AMT 7	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
237	0000	126 B	32475	623	2454	14964
237	0003	1224	32464	629	2460	14952
237	0010	1221	32463	631	2460	14952
237	0020	1216 B	32463	633	2461	14952
237	0030	1211	32465	632	2462	14952
237	0050	0706	32622	708 B	2556	14770
237	0075	0499 B	32687	708	2587	14691
237	0100	0458	32691	706	2592	14678
237	0125	0429	32746	704	2599	14671
237	0150	0441	33199	550	2634	14686
237	0175	0434	33636	405	2669	14693
237	0200	0412	33701	347	2676	14689
237	0250	0378	33770	270	2685	14684
237	0300	0363	33844	193	2693	14687
237	0400	0353	33969	125	2704	14701
237	0500	0351	34082	105	2713	14718

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
C000	1260 B	32475	623	2454	14964	0000	00000	3406
C010	1221	32463	631	2460	14952	0034	00002	3347
C020	1216 B	32463	633	2461	14952	0068	00007	3340
C030	1211	32465	632	2462	14952	0101	00015	3332
C050	0706	32622	708 B	2556	14770	0159	00038	2439
C075	0499 B	32687	708	2587	14691	0217	00075	2148
C100	0458	32691	706	2592	14678	0270	00123	2105
C125	0429	32746	704	2599	14671	0322	00183	2036
C150	0441	33199	550	2634	14686	0370	00249	1710
C175	0434	33636	405	2669	14693	0409	00313	1377
C200	0412	33701	347	2676	14689	0442	00378	1308
C225	0393	33740	305	2681	14686	0475	00449	1261
C250	0378	33770	270	2685	14684	0506	00525	1226
C300	0363	33844	193	2693	14687	0566	00694	1159
0400	0353	33969	125	2704	14701	0678	01095	1063
C500	0351	34082	105	2713	14718	0782	01570	0984

C-REF-NO 007 YR 1967 DEPTH C 4220 WAVES 1 1812 AIR T 12.1 VIS 8
 CONS. NO 002 MONTH 9 MXSAMP 40 WAVES 2 1833 WET B 09.8 STN 402
 LAT 50-01 N DAY 21 NO.DPTH 23 WND-DIR 180 WW-CODE 03
 LON 144-49 W HR 19.0 W-COLOR 20 WND-SPC 05 CLD-TPE 0
 MARSD SQ 195 C/I 18C2 W-TRANSP 14 BAKO 1013.7 CLD-AMT 8 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
190	0000	125 E	32457	629	2454	14960
190	0010	1231	32451	628 B	2457	14955
190	0019	1231	32450	628	2457	14956
190	0029	1226	32457	629	2459	14956
190	0046	0629	32635	710 B	2567	14739
190	0068	0517	32685	708	2585	14697
190	0091	0476	32697	712	2590	14684
190	0113	0443	32702	725	2594	14674
190	0136	0435	32876	660	2609	14677
190	0159	0434	33358	501	2647	14687
190	0182	0435	33590	421	2665	14694
190	0227	0404	33714	320	2678	14690
190	0272	0373	33795	231	2688	14686
190	0363	0362	33906	166	2698	14697
190	0455	0357	34029	112	2708	14712
201	0551	0344	34127	102 B	2717	14724
201	0795	0315	34291	082	2733	14754
201	0991	0298	34379	103	2741	14781
201	1184	0275	34430	083	2747	14804
201	1970	0196	34577	149	2766	14905
201	2470	0175	34620	198	2771	14982
201	2983	0160	34649	278	2774	15064
201	4000	0152	34660	320	2776	15239

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT. EN	SVA
0000	1250 B	32457	629	2454	14960	0000	00000	3401
0010	1231	32451	628 B	2457	14955	0034	00002	3374
0020	1236 B	32449	627	2456	14958	0068	00007	3387
0030	1195 F	32466	633	2465	14946	0102	00016	3302
0050	0578 H	3265 B	714 B	2575	14719	0158	00037	2260
0075	0500 B	32691	708	2587	14692	0213	00073	2146
0100	0461	3269 B	721	2591	14679	0267	00121	2108
0125	0437	3276 B	702	2599	14674	0319	00181	2031
0150	0434	3317 G	564 B	2632	14683	0366	00247	1727
0175	0435	3354 B	440	2661	14692	0406	00313	1451
0200	0425	3367 E	375	2672	14694	0441	00381	1346
0225	0406	33714	324	2678	14691	0475	00453	1294
0250	0387	33759	271	2684	14687	0507	00531	1243

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
C300	0366	33832	202 B	2691	14688	0567	00703	1170
0400	0360	33957	141	2702	14703	0681	01108	1079
0500	0351	34078	104	2712	14718	0785	01588	0987
0600	0338	34167	096 B	2721	14730	0881	02129	0913
0700	0325	34238	086 B	2728	14742	0971	02725	0855
0800	0315	34294	083	2733	14755	1055	03372	0809
1000	0297	34382	102	2742	14782	1211	04814	0737
1200	0273	34434	083	2748	14806	1355	06440	0684
1500	0238	34501	094 C	2756	14842	1552	09166	0612
2000	0194	34580	151	2766	14909	1841	14318	0524
2500	0174	34622	203	2771	14986	2098	20271	0486
3000	0160	34650	262 D	2774	15067	2341	27147	0464
3500	0153	34662	298 C	2776	15151	2577	35077	0459
4000	0152	34660	320	2776	15239	2815	44364	0473

C-REF-NO 007 YR 1967 DEPTH C 4220 WAVES 1 1735 AIR T 12.4 VIS 7
 CONS. NO 003 MONTH 9 MXSAMP 05 WAVES 2 2245 WET B 10.7 STN 403
 LAT 50-02 N DAY 24 NO.DPTH 16 WND-DIR 170 WW-CODE 02
 LON 144-55 W HR 20.0 W-COLOR 40 WND-SPC 11 CLD-TPE 6
 MARSD SQ 195 C/I 1802 W-TRANSP 12 BARO 1012.6 CLD-AMT 7 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
200	0000	118 B	32476	628	2469	14936
200	0003	1175	32477	628	2470	14935
200	0010	1175	32475	630	2470	14936
200	0019	1176	32476	630	2470	14938
200	0029	1174	32477	630	2470	14939
200	0048	0549	32676	706	2580	14707
200	0071	0483 B	32698	707	2589	14684
200	0095	0443	32692	708	2593	14671
200	0119	0421 B	32699	720	2596	14666
200	0143	0425	32942	626	2615	14675
200	0166	0449 B	33475	462 B	2655	14696
200	0190	0433	33680	378	2673	14696
200	0238	0385	33741	290	2682	14684
200	0286	0368	33823	204	2690	14686
200	0383	0354	33948	129	2702	14698
200	0480	0353	34073	108	2712	14715

I N T E R P O L A T E D

DEPTH	T E M P	S A L	CXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1180 B	32476	628	2469	14936	0000	00000	3262
0010	1175	32475	630	2470	14936	0033	00002	3256
0020	1181 B	32474	629	2469	14940	0066	00007	3269
0030	1145 F	3249 B	634	2476	14929	0098	00015	3200
0050	0528 E	32683	708	2583	14699	0152	00036	2180
0075	0475 B	32698	707	2590	14681	0206	00071	2115
0100	0437	3268 B	714	2593	14669	0259	00118	2089
0125	0420 B	32734	705	2599	14667	0311	00178	2036
0150	0433	3311 G	576 B	2627	14682	0359	00245	1772
0175	0446 B	3358 C	424 B	2663	14697	0399	00312	1432
0200	0423	3371 E	355	2676	14694	0434	00378	1311
0225	0398	3375 E	308	2681	14688	0466	00449	1261
0250	0379	33761	267	2684	14684	0498	00525	1233
0300	0365	33843	187	2692	14687	0558	00695	1162
0400	0351	3398 B	110 C	2705	14700	0670	01095	1054

C-REF-NO 007	YR 1967	DEPTH C 4220	WAVES 1 2834	AIR T 11.7	VIS 7
CONS. NO 004	MONTH 9	MXSAMPD 04	WAVES 2 2645	WET B 10.4	STN 404
LAT 50-03 N	DAY 29	NO.DPTH 15	WNC-DIR 280	WW-CODE 62	
LON 145-01 W	HR 19.5	W-COLOR 20	WND-SPD 14	CLD-TPE 7	
MARSD SQ 195	C/I 18C2	W-TRNSP 08	BARO 999.0	CLD-AMT 7	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
195	0000	116 B	32476	632	2473	14929
195	0003	1152	32472	632	2474	14927
195	0010	1149	32471	636	2474	14927
195	0020	1150	32475	634	2474	14929
195	0029	1148	32472	634	2474	14929
195	0048	1130	32477	636	2478	14926
195	0073	0505 B	32701	709	2587	14694
195	0097	0459	32689	713	2591	14678
195	0122	0425	32694	723	2595	14668
195	0146	0410	32829	676	2607	14668
195	0170	0451	33535	444	2659	14698
195	0194	0427	33656	386	2671	14694
195	0243	0386	33745	285	2683	14686
195	0292	0365	33825	198	2691	14686
195	0391	0353	33963	119	2703	14699

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1160 B	32476	632	2473	14929	0000	00000	3227
0010	1149	32471	636	2474	14927	0032	00002	3214
0020	1150	32475	634	2474	14929	0065	00007	3215
0030	1152 B	32470	633	2474	14931	0097	00015	3224
0050	1082 H	3250 B	642	2488	14910	0161	00041	3091
0075	0491 D	32704	710	2589	14688	0226	00081	2127
0100	0454	32685	716	2591	14677	0279	00129	2105
0125	0421	3269 C	724	2595	14667	0332	00190	2069
0150	0417 B	3295 I	638 C	2616	14673	0382	00259	1875
0175	0449	3359 E	425 B	2663	14699	0423	00328	1429
0200	0421	3367 B	373	2673	14692	0458	00395	1338
0225	0399	3373 C	320	2680	14688	0491	00467	1279
0250	0382	33757	271	2684	14685	0523	00544	1239
0300	0360	33838	192	2692	14685	0583	00714	1160
0400	0355	33974	116	2704	14701	0695	01115	1061

C-REF-NO C07 YR 1967 DEPTH C 4220 WAVES 1 3435 AIR T 10.6 VIS 7
 CONS. NO 005 MONTH 10 MXSAMP C 04 WAVES 2 3144 WET B 08.8 STN 405
 LAT 49-58 N DAY 03 NO.DPTH 15 WND-DIR 340 WW-CODE 02
 LON 145-02 W HR 16.8 W-COLOR 20 WND-SPC 11 CLD-TPE 8
 MARSD SQ 159 C/I 18C2 W-TRANSP 08 BARO 1013.0 CLD-AMT 3 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
168	0000	113 B	32467	647 B	2477	14918
168	0008	1125	32477	641 B	2479	14918
168	0016	1125	32473	645	2479	14919
168	0024	1123	32473	641	2479	14920
168	0041	0908 B	32473	641	2515	14844
168	0061	0535 B	32683	710	2582	14704
168	0082	0485	32703	714	2590	14687
168	0103	0450 B	32723	716	2595	14676
168	0123	0418	32765	714	2602	14666
168	0144	0443	33170	565	2631	14686
168	0164	0435	33501	458	2658	14690
168	0206	0424	33755	330	2679	14696
168	0247	0385	33783	284	2686	14686
168	0330	0360	33876	183 B	2695	14691
168	0418	0359 B	33981	139	2704	14706

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
C000	1130 B	32467	647 B	2477	14918	0000	00000	3182
C010	1125	32476	642 B	2479	14918	0032	00002	3169
C020	1128	32473	643	2478	14921	0064	00007	3179
C030	1069 D	3246 B	637	2488	14901	0095	00015	3088
C050	0729 I	3257 F	671 B	2549	14778	0152	00037	2511
C075	0481 F	3271 C	717	2590	14684	0210	00074	2114
C100	0454 B	32719	716	2594	14677	0263	00121	2080
C125	0420	3280 B	702	2604	14668	0314	00180	1988
C150	0442	33279	530	2640	14688	0360	00244	1651
C175	0433	3361 D	414	2667	14692	0398	00308	1398
C200	0426	3374 C	342	2678	14696	0432	00373	1290
C225	0407	3378 C	304	2683	14692	0464	00442	1244
C250	0383	33786	280	2686	14686	0495	00518	1219
C300	0364	33839	217 B	2692	14687	0555	00687	1163
0400	0354 B	33956	147	2702	14701	0668	01091	1073

C-REF-NO 007	YR 1967	DEPTH C 4220	WAVES 1 3022	AIR T 12.0	VIS 7
CONS. NO 006	MONTH 10	MXSAMP C 37	WAVES 2 3342	WET B 06.3	STN 406
LAT 50-01 N	DAY C4	NO.DPTH 26	WND-DIR 310	WW-CODE 01	
LON 145-03 W	HR 19.0	W-COLOR 20	WND-SPC 08	CLD-TPE 6	
MARSD SQ 195	C/I 18C2	W-TRNSP 09	BARO 1007.4	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
190	0000	110 B	32484	647	2484	14908
190	0010	1098	32484	647	2484	14909
190	0020	1100	32484	647	2484	14911
190	0030	1099	32483	646	2484	14912
190	0049	0561	32682	710	2579	14712
190	0073	0504 B	32702	714	2587	14693
190	0098	0477	32724	714	2592	14686
190	0123	0416	32727	726	2599	14665
190	0147	0445	33123	580	2627	14686
190	0172	0444	33589	433	2664	14696
190	0196	0437	33708	368	2674	14699
190	0245	0390	33757	285	2683	14688
190	0294	0366	33824	205	2691	14687
190	0394	0354	33957	139	2703	14700
201	0493	0351	34070	102 B	2712	14717
201	0593	0340 B	34177	093	2721	14730
201	0798	0313	34301	084	2734	14754
201	0998	0288	34374	096	2742	14778
201	1198	0262	34440	082	2749	14801
201	1497	0234	34499	105	2756	14840
201	1995	0194	34576	152	2766	14908
201	2480	0174	34621	195	2771	14983
201	2842	0162	34640	252	2773	15040
201	3231	0156 B	34654	299	2775	15105
201	3534	0152	34660	320	2776	15157
201	3674	0151	34654	318	2775	15181

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
C000	1100 B	32484	647	2484	14908	0000	00000	3119
C010	1098	32484	647	2484	14909	0031	00002	3118
C020	1100	32484	647	2484	14911	0063	00006	3123
C030	1099	32483	646	2484	14912	0094	00014	3124
C050	0551 B	32685	711	2581	14709	0148	00036	2205
0075	0502 B	32704	714	2588	14693	0202	00070	2139
C100	0471	3272 B	718	2592	14684	0256	00118	2099
0125	0417	3275 B	717	2601	14666	0308	00178	2020
C150	0446	3319 C	560	2632	14688	0355	00244	1724
0175	0444	3361 B	422	2666	14697	0394	00309	1403

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT. EN	SVA
0200	0434	3372 B	360	2675	14698	0428	00375	1318
0225	0410 B	3375 D	315	2681	14693	0461	00446	1270
0250	0387	33763	276	2684	14687	0493	00523	1239
0300	0364	33832	199	2692	14687	0553	00694	1169
0400	0354	33964	136	2703	14701	0666	01097	1067
0500	0350	34078	101 B	2712	14718	0770	01574	0986
0600	0339 B	34183	092	2722	14731	0865	02112	0903
0700	0326	34253	086	2729	14743	0954	02701	0845
0800	0313	34302	084	2734	14754	1037	03341	0801
1000	0288	34375	096	2742	14778	1192	04771	0733
1200	0262	34440	082	2749	14801	1334	06370	0667
1500	0234	34500	105	2757	14840	1528	09054	0608
2000	0194	34577	152	2766	14909	1816	14199	0526
2500	0173	34622	198	2771	14986	2073	20155	0485
3000	0159	34647	273	2774	15067	2316	27034	0465
3500	0152	34660	319	2776	15151	2552	34985	0460

C-REF-NO 007	YR 1967	DEPTH C 4220	WAVES 1 0221	AIR T 10.4	VIS 9
CONS. NO CC7	MONTH 10	MXSAMP C 20	WAVES 2 3433	WET B 07.2	STN 407
LAT 49-52 N	DAY C5	NO.DPTH 20	WND-DIR 020	WW-CODE 02	
LON 145-00 W	HR 23.6	W-COLOR 20	WND-SPC 05	CLD-TPE 8	
MARSD SQ 159	C/I 18C2	W-TRANSP 12	BARO 1003.8	CLD-AMT 1	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
236	0000	117 B	32486	644 B	2472	14933
236	0003	1126	32478	647	2479	14917
236	0007	1123	32477	647	2479	14917
236	0014	1116	32477	646	2481	14916
236	0022	1113	32508	645	2484	14916
236	0037	1112	32478	647 B	2481	14918
236	0056	0499	32683	718	2586	14688
236	0076	0445	32691	724	2593	14669
236	0115	0521 B	32679	722	2584	14707
236	0136	0458	32694	722	2592	14684
236	0157	0419	32865	667	2609	14674
236	0246	0414	33774	279	2682	14698
*245	0344	0362	33898	168	2697	14694
*245	0477	0358	34072	107	2711	14717
*245	0573	0346	34143	104	2718	14729
*245	0769	0318	34278	084	2731	14751
*245	0968	0300	34364	078	2740	14778
*245	1170	0269	34422	082	2747	14799
*245	1470	0237	34489	097	2755	14836
*245	1974	0195	34576	148	2766	14905

*MULTIPLE CAST CONTINUED NEXT DAY

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
C000	1170 B	32486	644 B	2472	14933	0000	00000	3237
C010	1120	32475	647	2480	14916	0032	00002	3161
C020	1113	32500	645	2483	14916	0064	00006	3134
C030	1139 I	3249 D	643	2477	14926	0096	00015	3187
C050	0700 I	3261 F	695 B	2556	14767	0152	00037	2437
C075	0440 B	32693	725	2594	14667	0209	00073	2082
C100	0492 I	3268 B	724	2587	14692	0262	00121	2147
C125	0494 B	3268 B	725	2586	14697	0316	00183	2156
C150	0430	3280 B	689	2603	14676	0369	00257	1999
C175	0409 D	3307 I	588 E	2626	14675	0416	00336	1778
C200	0403 F	3333 I	478 G	2648	14680	0459	00417	1575
*C225	0405 E	3358 I	370 E	2667	14689	0496	00498	1393
C250	0412	3379 B	271	2683	14698	0529	00579	1247
C300	0386 B	3390 I	194 D	2695	14697	0589	00748	1141
0400	0357 B	3398 B	132	2704	14702	0701	01145	1061

DEPTH	T E M P	S A L	CXYGEN	SGMT	SOUND	DELTA-D	POT. EN	SVA
C500	0356	34091	105	2713	14720	0804	01620	0981
C600	0342	34163	101	2720	14732	0900	02162	0921
0700	0328	34234	091	2727	14743	0990	02762	0860
C800	0315	34294	082	2733	14755	1074	03411	0809
1000	C295	34375	078	2741	14781	1231	04857	0741
1200	C265	34429	083	2748	14802	1375	06480	0679
1500	0231	34498	099	2757	14839	1570	09183	0607
2000	C194	34579	151	2766	14909	1858	14313	0524

C-REF-NO 007	YR 1967	DEPTH C 4220	WAVES 1 0543	AIR T 11.4	VIS 7
CONS. NO 008	MONTH 10	MXSAMPD 05	WAVES 2 3433	WET B 09.4	STN 408
LAT 50-04 N	DAY 06	NO-DPTH 16	WND-DIR 050	WW-CODE 02	
LON 144-50 W	HR 19.4	W-COLOR 20	WND-SPD 11	CLD-TPE 8	
MARSD SQ 195	C/I 1802	W-TRNSP 09	BARO 1001.8	CLD-AMT 7	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	CXYGEN	SGMT	SOUND
194	0000	114 B	32483	639	2477	14922
194	0003	1117	32472	640	2480	14914
194	0010	1114	32472	641 B	2481	14914
194	0019	1115	32472	640	2480	14916
194	0029	1113	32473	643	2481	14917
194	0048	0576	32672	706 B	2577	14718
194	0072	0492	32688	710	2588	14688
194	0096	0441	32690	719	2593	14671
194	0121	0430	32823	676	2605	14672
194	0145	0432	33267	520	2640	14683
194	0169	0444	33575	422 B	2663	14696
194	0193	0417	33687	347	2675	14690
194	0242	0390	33771	258	2684	14688
194	0290	0366	33829	201	2691	14686
194	0389	0356	33951	135	2702	14700
194	0488	0350	34069	088	2712	14715

I N T E R P O L A T E D

DEPTH	T E M P	S A L	CXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1140 B	32483	639	2477	14922	0000	00000	3188
0010	1114	32472	641 B	2481	14914	0032	00002	3153
0020	1119 B	32470	640	2480	14918	0064	00007	3166
0030	1088 E	3248 B	646	2486	14909	0095	00015	3107
0050	0556 D	32679	708 B	2580	14710	0149	00036	2215
0075	0484	32685	712	2588	14685	0203	00071	2133
0100	0437	3270 B	718	2594	14670	0256	00118	2080
0125	0430	3289 D	652 B	2610	14673	0307	00176	1927
0150	0436	33345	496	2646	14686	0351	00238	1595
0175	0439	3361 B	401 B	2667	14695	0389	00301	1398
0200	0412	3371 B	331	2677	14689	0423	00366	1304
0225	0397	3375 B	282	2682	14688	0455	00436	1255
0250	0385	33781	247	2685	14687	0487	00512	1225
0300	0364	33841	192	2692	14687	0547	00682	1162
0400	0348 C	33963	121 B	2704	14698	0659	01083	1062

C-REF-NO C07 YR 1967 DEPTH C 4220 WAVES 1 1922 AIR T 09.7 VIS 7
 CONS. NO C09 MONTH 10 MXSAMP 20 WAVES 2 2555 WET B 06.4 STN 409
 LAT 49-57 N DAY 16 NO.DPTH 21 WND-DIR 200 WW-CCODE 03
 LON 144-47 W HR 17.5 W-COLOR 20 WND-SPC 09 CLD-TPE 8
 MARSD SQ 159 C/I 18C2 W-TRANSP 09 BARO 1020.0 CLD-AMT 7 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	CXYGEN	SGMT	SOUND
175	0000	103 E	32506	664	2498	14883
175	0010	1035	32495	660	2495	14888
175	0020	1041	32496	646 B	2495	14890
175	0029	1040	32496	648	2495	14891
175	0049	0649	32642	707	2565	14747
175	0073	0512 E	32693	708	2586	14696
175	0098	0459	32693	716 B	2592	14678
175	0123	0421 E	32745	712	2600	14667
175	0147	0457	33167	566 B	2629	14692
175	0172	0442	33554	431	2662	14695
175	0196	0415	33679	357 B	2674	14689
175	0244	0381	33754	279	2684	14684
175	0293	0371 E	33832	211	2691	14689
184	0392	0354	33945	138	2702	14699
184	0488	0352	34060	096	2711	14716
184	0586	0341	34170	082	2721	14729
184	0781	0316	34280	070	2732	14752
184	0978	0295	34381	075	2742	14777
184	1174	0268 B	34434	064	2748	14799
184	1470	0235	34499	079	2756	14836
184	1968	0196	34581	137	2766	14904

I N T E R P O L A T E D

DEPTH	T E M P	S A L	CXYGEN	SGMT	SOUND	DELTA-D	POT. EN	SVA
C000	1030 B	32506	664	2498	14883	0000	00000	2987
C010	1035	32495	660	2495	14888	0030	00002	3012
C020	1041	32496	646 B	2495	14890	0060	00006	3017
C030	1024 C	32502	651	2499	14886	0091	00014	2986
C050	0635	32646	708	2567	14743	0144	00035	2337
C075	0506 B	32693	709	2586	14694	0201	00071	2151
C100	0454	3269 B	719 B	2592	14677	0254	00119	2102
C125	0424 B	3277 B	702	2602	14669	0306	00179	2009
C150	0457	3322 B	548 B	2634	14693	0353	00244	1709
C175	0435	33578	420	2664	14694	0392	00310	1426
C200	0411	33690	349 B	2676	14688	0427	00376	1315
C225	0391	3374 C	304 B	2681	14685	0459	00447	1261
C250	0375	33764	270	2685	14684	0491	00523	1231
C300	0369 B	33841	204	2692	14689	0551	00694	1168
C400	0354	33955	133	2702	14701	0664	01098	1074

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
C500	C351	34075	093	2712	14718	0768	01577	0989
C600	0339	34180	081	2722	14731	0864	02116	0905
0700	0326	3424 B	073	2728	14743	0953	02708	0852
0800	0314	34291	070	2733	14755	1037	03355	0810
1000	C292	34388	074	2743	14780	1193	04787	0727
1200	C265 B	34440	064	2749	14802	1334	06385	0671
1500	C232 B	34506	076	2757	14839	1528	09058	0600
2000	0194	34585	143	2767	14909	1812	14146	0521

C-REF-NO 007 YR 1967 DEPTH C 4220 WAVES 1 3122 AIR T 09.8 VIS 7
 CONS. NO 010 MONTH 10 MXSAMP C 42 WAVES 2 2943 WET B 07.3 STN 410
 LAT 49-59 N DAY 17 NC.DPTH 26 WNC-DIR 310 WW-CODE 81
 LON 145-07 W HR 17.5 W-COLOR 40 WNC-SPD 10 CLD-TPE 8
 MARSC SQ 159 C/I 18C2 W-TRANSP 09 BARO 1007.5 CLD-AMT 7 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	CXYGEN	SGMT	SOUND
175	0000	103 B	32495	648	2497	14883
175	0010	1047	32491	649	2494	14891
175	0020	1049	32497	648	2494	14893
175	0030	1048	32494	645	2494	14894
175	0050	0836 B	32583	673	2535	14820
175	0075	0483	32698	712	2589	14685
175	0100	0433	32707	716	2595	14668
175	0125	0418	32925	644	2614	14669
175	0150	0424	33452	461 B	2655	14682
175	0175	0432	33679	371	2673	14693
175	0200	0436	33743	343	2677	14700
175	0250	0402	33788	271 B	2684	14694
175	0300	0375	33847	215	2692	14692
175	0400	0357	33981	138	2704	14702
175	0500	0350	34083	102	2713	14717
175	0600	0345	34172	075	2720	14733
187	0800	0317	34296	062	2733	14756
187	1000	0288	34378	075	2742	14778
187	1200	0264 B	34434	078	2749	14802
187	1500	0231 B	34505	083	2757	14839
187	2000	0193	34581	137	2766	14908
187	2500	0173	34627	215	2772	14986
187	3000	0159	34655	279	2775	15067
187	3500	0153 B	34668	301	2776	15151
187	4000	0152	34674	341	2777	15239
187	4200	0151	34675	335	2777	15274

I N T E R P O L A T E D

DEPTH	T E M P	S A L	CXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1030 B	32495	648	2497	14883	0000	00000	2996
0010	1047	32491	649	2494	14891	0030	00002	3028
0020	1049	32497	648	2494	14893	0061	00006	3029
0030	1048	32494	645	2494	14894	0091	00014	3031
0050	0836 B	32583	673	2535	14820	0148	00037	2645
0075	0483	32698	712	2589	14685	0208	00075	2123
0100	0433	32707	716	2595	14668	0261	00122	2067
0125	0418	32925	644	2614	14669	0311	00179	1890
0150	0424	33452	461 B	2655	14682	0354	00239	1503
0175	0432	33679	371	2673	14693	0389	00298	1343

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
C200	0436	33743	343	2677	14700	0423	00362	1301
C225	0422 B	3377 B	307	2681	14698	0455	00433	1267
C250	0402	33788	271 B	2684	14694	0487	00510	1236
0300	0375	33847	215	2692	14692	0547	00681	1169
0400	0357	33981	138	2704	14702	0660	01082	1058
C500	0350	34083	102	2713	14717	0763	01556	0982
0600	0345	34172	075	2720	14733	0859	02096	0918
0700	0333	34241	063	2727	14745	0948	02695	0860
0800	0317	34296	062	2733	14756	1033	03345	0810
1000	0288	34378	075	2742	14778	1189	04781	0730
1200	0264 B	34434	078	2749	14802	1331	06387	0674
1500	0231 B	34505	083	2757	14839	1525	09067	0601
2000	0193	34581	137	2766	14908	1810	14163	0522
2500	0173	34627	215	2772	14986	2066	20073	0482
3000	0159	34655	279	2775	15067	2306	26879	0459
3500	0153 B	34668	301	2776	15152	2539	34737	0455
4000	0152	34674	341	2777	15239	2775	43887	0463

SECTION IV

Bathythermograms

EXPLANATION OF DATA HEADINGS IN TABLES 1 AND 2

CON No: The consecutive BT slide number.

LAT:)
 Deg
 Min
LONG:)

 Position of platform at time of BT lowering.

DATE: Day Day
 Mon Month
 Yr Year

GMT: Hrs The Greenwich Mean Time at which the BT lowering was made.
 Min

DEPTH: Metres Depth to bottom in metres, as read from U.S. Coast and
 Geodetic Survey Chart 8500.

BAR: Mbs Barometric pressure; prefix all listed values by 10 or
 by 9 if a minus (-) sign is present to obtain the pressure
 in whole millibars.

 eg. 02 = 1002 mbs
 17 = 1017 mbs
 -98 = 998 mbs
 -86 = 986 mbs

WW Code: Refer to Table 7, Section II

WIND Amt: Wind speed in meters per second

W-1:)
 P
 H
W-2:)

 Waves 1 and 2. Refer to Tables 4&5, Section II

CLOUD: T Refer to Tables 8&9, Section II
 A

CCGS "VANCOUVER" 02-67-007

BATHYTHERMOGRAMS

TABLE 1

CON No	LAT		LONG		DATE			GMT		DEPTH Metres	BAR Mbs	WW Code	WIND Amt	W-1		W-2		CLOUD	
	Deg	Min	Deg	Min	Day	Mon	Yr	Hrs	Min					P	H	P	H	T	A
001	49	59	145	02	19	09	67	15	00	4221	13	02	10	34		45		8	6
002	50	02	145	02	19	09	67	18	00	4221	15	02	10	33		45		6	8
003	50	07	144	56	19	09	67	21	00	4221	15	03	09	22		34		7	6
004	50	07	144	56	20	09	67	00	00	4221	15	03	10	21		34		7	6
005	49	55	145	03	20	09	67	03	00	4221	15	02	06	21		33		7	8
006	49	57	145	04	20	09	67	06	00	4221	16	02	07	22		46		6	8
007	49	58	145	02	20	09	67	09	00	4221	16	01	07	22		22		3	8
008	49	57	145	00	20	09	67	12	00	4221	16	02	09	22		33		6	8
009	50	02	144	57	20	09	67	15	00	4221	15	03	07	22		44		7	8
010	50	00	144	57	20	09	67	18	00	4221	15	03	06	21		33		8	6
011	49	59	144	57	20	09	67	21	00	4221	13	02	07	21		33		8	6
012	49	57	144	59	21	09	67	00	00	4221	12	02	09	21		32		8	6
013	49	57	144	55	21	09	67	03	00	4221	12	25	06	X0		33		8	6
014	50	00	144	54	21	09	67	06	00	4221	12	02	10	21		33		8	7
015	50	00	145	08	21	09	67	09	00	4221	13	01	16	22		33		8	5
016	49	54	145	08	21	09	67	12	00	4221	13	02	11	21		33		8	4
017	49	58	145	05	21	09	67	15	00	4221	14	02	12	22		33		8	4
018	49	59	145	01	21	09	67	18	00	4221	14	01	10	12		33		0	7
019	50	01	144	49	21	09	67	21	00	4221	12	03	20	22		33		4	8
020	50	00	144	54	22	09	67	00	00	4221	07	02	26	24		35		6	8
021	49	57	144	56	22	09	67	03	00	4221	02	21	32	46		35		7	8
022	50	02	144	50	22	09	67	15	00	4221	01	02	31	35		46		7	8
023	49	59	144	58	23	09	67	18	00	4221	07	02	17	35		48		8	5
024	49	57	145	08	23	09	67	21	00	4221	07	01	18	35		48		8	3
025	49	57	145	15	24	09	67	00	00	4221	07	02	97	34		47		8	3

TABLE 1

CON No	LAT		LONG		DATE			GMT		DEPTH Metres	BAR Mbs	WW Code	WIND Aml	W-1		W-2		CLOUD	
	Deg	Min	Deg	Min	Day	Mon	Yr	Hrs	Min					P	H	P	H	T	A
026	50	00	145	07	24	09	67	03	00	4221	07	02	97	34	47	8	5		
027	50	02	145	04	24	09	67	06	00	4221	07	01	97	34	47	8	1		
028	50	02	145	08	24	09	67	09	00	4221	09	03	97	46	34	8	5		
029	50	03	145	01	24	09	67	12	00	4221	09	02	17	33	46	8	4		
030	50	01	145	03	24	09	67	15	00	4221	08	03	14	32	46	3	7		
031	49	59	144	57	24	09	67	18	00	4221	08	02	18	33	46	6	7		
032	50	05	144	55	25	09	67	00	00	4221	04	02	22	34	45	6	8		
033	49	59	144	56	25	09	67	03	00	4221	-99	61	31	36	47	7	8		
034	49	56	144	57	26	09	67	12	00	4221	06	02	13	53	XX	7	8		
035	49	52	145	04	26	09	67	15	00	4221	06	02	09	46	71	7	8		
036	49	56	145	06	26	09	67	18	00	4221	06	02	06	32	44	6	6		
037	49	57	144	57	26	09	67	21	00	4221	07	02	09	32	35	6	7		
038	50	00	144	57	27	09	67	00	00	4221	08	02	10	32	33	1	7		
039	49	58	144	56	27	09	67	03	00	4221	08	01	10	32	33	8	2		
040	50	02	145	02	27	09	67	06	00	4221	09	02	10	33	32	8	3		
041	50	07	144	59	27	09	67	09	00	4221	10	01	10	34	56	8	1		
042	50	00	144	58	27	09	67	12	00	4221	10	03	11	33	55	8	3		
043	50	04	144	51	27	09	67	15	00	4221	09	02	16	34	44	8	3		
044	50	01	145	00	27	09	67	18	00	4221	08	03	22	34	44	8	6		
045	50	05	145	02	27	09	67	21	00	4221	05	02	28	35	44	6	8		
046	49	53	144	28	28	09	67	12	00	4221	-86	21	16	33	49	6	6		
047	49	51	144	57	28	09	67	18	00	4221	-81	15	10	21	47	8	7		
048	49	47	145	01	28	09	67	21	00	4221	-83	03	18	22	59	8	7		
049	49	43	145	00	29	09	67	00	00	4221	-84	15	21	22	48	6	7		
050	49	44	144	56	29	09	67	03	00	4221	-85	25	17	22	49	6	7		

TABLE 1

CON No	LAT		LONG		DATE			GMT		DEPTH Metres	BAR Mbs	WW Code	WIND Aml	W-1		W-2		CLOUD	
	Deg	Min	Deg	Min	Day	Mon	Yr	Hrs	Min					P	H	P	H	T	A
051	49	57	144	51	29	09	67	06	00	4221	-89	02	19	34	47	8	8		
052	50	01	145	00	29	09	67	12	00	4221	-95	02	19	34	48	8	8		
053	50	01	145	10	29	09	67	15	00	4221	-97	02	17	34	46	6	8		
054	50	04	145	03	29	09	67	18	00	4221	-97	02	16	34	46	7	7		
055	50	03	145	01	29	09	67	21	00	4221	-98	02	23	34	45	7	7		
056	50	04	144	56	30	09	67	00	00	4221	00	80	21	34	44	6	8		
057	50	02	145	02	30	09	67	03	00	4221	00	25	18	33	44	6	8		
058	50	03	145	15	30	09	67	06	00	4221	01	61	12	33	56	7	8		
059	50	02	145	15	30	09	67	09	00	4221	01	21	18	33	45	7	8		
060	50	05	145	04	30	09	67	12	00	4221	01	02	14	33	45	6	8		
061	50	00	145	00	30	09	67	15	00	4221	02	61	23	22	44	8	8		
062	49	57	145	01	30	09	67	18	00	4221	04	15	23	34	44	8	7		
063	49	58	144	56	30	09	67	21	00	4221	06	15	23	34	44	8	7		
064	49	59	144	55	01	10	67	00	00	4221	08	15	26	35	44	8	7		
065	50	05	145	23	01	10	67	12	00	4221	10	02	26	36	43	8	3		
066	50	02	145	08	01	10	67	15	00	4221	09	02	22	35	43	8	3		
067	50	04	145	05	01	10	67	18	00	4221	08	15	22	35	43	8	6		
068	50	03	144	58	01	10	67	21	00	4221	08	80	31	33	45	8	8		
069	50	03	144	55	02	10	67	00	00	4221	08	25	32	33	47	8	8		
070	50	02	144	53	02	10	67	03	00	4221	09	25	32	32	46	7	6		
071	50	08	145	06	02	10	67	06	00	2308	10	02	23	33	45	4	8		
072	50	15	145	08	02	10	67	09	00	4221	10	03	25	33	45	6	8		
073	50	11	145	02	02	10	67	12	00	4221	10	01	26	33	45	3	8		
074	50	05	144	53	02	10	67	15	00	4221	10	03	26	33	46	8	6		
075	50	00	144	44	02	10	67	18	00	4221	09	25	23	33	46	8	6		

TABLE 1

CON No	LAT		LONG		DATE			GMT		DEPTH Metres	BAR Mbs	WW Code	WIND Amt	W-1		W-2		CLOUD	
	Deg	Min	Deg	Min	Day	Mon	Yr	Hrs	Min					P	H	P	H	T	A
076	50	01	144	41	02	10	67	21	00	4221	09	02	24	33	46	6	8		
077	50	04	144	48	03	10	67	00	00	4221	09	02	27	33	46	6	6		
078	50	09	144	46	03	10	67	03	00	4221	09	02	21	33	45	8	6		
079	50	13	144	55	03	10	67	06	00	4221	10	02	23	33	45	8	4		
080	50	02	145	02	03	10	67	09	00	4221	11	02	23	34	45	8	4		
081	49	59	145	04	03	10	67	12	00	4221	11	02	24	34	45	6	3		
082	49	59	145	04	03	10	67	15	00	4221	12	02	21	46	45	8	3		
083	49	58	145	02	03	10	67	18	00	4221	13	02	22	35	44	6	3		
084	50	05	145	05	03	10	67	21	00	4221	13	03	17	22	44	6	7		
085	50	05	145	00	04	10	67	00	00	4221	13	02	15	23	44	6	7		
086	50	05	144	57	04	10	67	03	00	4221	12	02	14	23	44	6	6		
087	50	02	144	54	04	10	67	06	00	4221	13	02	14	22	44	6	4		
088	50	03	145	00	04	10	67	09	00	4221	12	02	18	23	43	6	7		
089	50	04	145	08	04	10	67	12	00	4221	10	02	16	23	43	6	8		
090	50	07	145	03	04	10	67	15	00	4221	09	02	13	22	42	6	8		
091	50	00	145	03	04	10	67	18	00	4221	08	02	14	22	42	6	8		
092	50	00	145	03	04	10	67	21	00	4221	08	01	16	22	43	6	6		
093	50	00	145	02	05	10	67	00	00	4221	07	03	18	22	33	6	7		
094	49	59	144	57	05	10	67	03	00	4221	06	01	15	22	34	8	2		
095	50	00	144	55	05	10	67	06	00	4221	05	02	15	22	43	8	2		
096	50	00	144	59	05	10	67	09	00	4221	05	01	24	22	34	8	1		
097	60	02	145	09	05	10	67	22	00	4221	05	02	23	22	35	8	1		
098	49	56	145	09	05	10	67	15	00	4221	04	03	15	22	43	6	8		
099	49	54	145	03	05	10	67	18	00	4221	04	01	21	22	33	6	3		
100	49	55	145	02	05	10	67	21	00	4221	05	03	07	22	32	6	6		

TABLE 1

CON No	LAT		LONG		DATE			GMT		DEPTH Metres	BAR Mbs	WW Code	WIND Amt	W-1		W-2		CLOUD	
	Deg	Min	Deg	Min	Day	Mon	Yr	Hrs	Min					P	H	P	H	T	A
101	49	53	144	57	06	10	67	00	00	4221	04	02	11	22	32	6	2		
102	50	00	144	54	06	10	67	03	00	4221	03	02	19	33	32	8	3		
103	50	09	144	54	06	10	67	06	00	4221	03	02	19	33	32	6	3		
104	49	58	144	54	06	10	67	09	00	4221	02	02	22	33	32	6	4		
105	50	00	144	58	06	10	67	12	00	4221	01	02	21	33	32	6	8		
106	50	04	144	55	06	10	67	15	00	4221	01	02	20	33	32	6	7		
107	50	04	144	49	06	10	67	18	00	4221	02	25	23	33	32	8	7		
108	50	05	144	52	06	10	67	21	00	4221	02	02	18	34	33	8	6		
109	50	03	144	55	07	10	67	00	00	4221	02	15	18	33	34	8	6		
110	50	05	145	01	07	10	67	03	00	4221	01	02	19	33	44	6	7		
111	50	04	145	00	07	10	67	06	00	4221	02	02	20	33	44	6	8		
112	50	06	145	05	07	10	67	09	00	4221	01	02	22	33	43	6	8		
113	50	08	145	08	07	10	67	12	00	4221	-99	61	26	34	XX	7	8		
114	50	05	145	00	07	10	67	15	00	4221	-98	61	26	34	XX	7	8		
115	49	56	145	05	07	10	67	18	00	4221	-96	21	25	35	43	7	8		
116	50	00	144	55	07	10	67	21	00	4221	-93	45	15	34	43	X	9		
117	50	02	145	02	08	10	67	03	00	4221	-89	43	12	33	54	X	9		
118	50	00	144	47	08	10	67	06	00	4221	-88	45	10	21	XX	X	9		
119	50	00	145	06	08	10	67	12	00	4221	-86	25	18	22	XX	7	8		
120	49	59	145	03	08	10	67	15	00	4221	-84	61	20	23	XX	X	9		
121	50	01	145	06	08	10	67	18	00	4221	-82	61	22	23	45	7	8		
122	49	55	144	57	09	10	67	03	00	4221	-87	03	18	32	46	3	7		
123	49	58	144	54	09	10	67	06	00	4221	-88	02	23	34	XX	8	5		
124	49	54	144	58	09	10	67	09	00	4221	-88	13	25	34	XX	8	3		
125	50	00	144	57	09	10	67	15	00	4221	-85	02	13	34	XX	8	3		

TABLE 1

CON No	LAT		LONG		DATE			GMT		DEPTH Metres	BAR Mbs	WW Code	WIND Amt	W-1		W-2		CLOUD	
	Deg	Min	Deg	Min	Day	Mon	Yr	Hrs	Min					P	H	P	H	T	A
126	49	55	145	02	09	10	67	21	00	4221	-84	02	16	33	48	8	5		
127	49	58	145	07	10	10	67	00	00	4221	-82	25	14	33	47	8	6		
128	50	00	145	02	10	10	67	03	00	4221	-81	25	21	34	49	9	6		
129	50	01	144	56	10	10	67	06	00	4221	-79	02	30	35	59	8	3		
130	50	02	144	48	10	10	67	09	00	4221	-78	25	23	35	48	8	4		
131	50	03	144	47	10	10	67	12	00	4221	-77	81	21	34	47	8	5		
132	50	02	144	54	10	10	67	15	00	4221	-77	25	22	34	48	8	4		
133	50	05	145	01	10	10	67	18	00	4221	-81	02	23	45	58	8	7		
134	49	59	145	06	11	10	67	00	00	4221	-88	15	24	46	58	9	7		
135	49	48	144	49	11	10	67	03	00	4221	-92	02	23	46	57	8	4		
136	49	53	144	49	11	10	67	06	00	4221	-96	25	30	36	58	8	5		
137	49	59	145	00	11	10	67	09	00	4221	99	01	29	36	59	6	2		
138	49	59	145	07	11	10	67	12	00	4221	01	25	28	35	XX	8	4		
139	50	05	145	16	11	10	67	15	00	4221	01	25	20	34	XX	8	5		
140	49	59	145	11	11	10	67	18	00	4221	03	15	24	34	58	8	6		
141	50	03	144	53	11	10	67	21	00	4221	04	02	20	34	56	8	6		
142	50	02	144	57	12	10	67	00	00	4221	05	15	26	34	55	8	6		
143	50	02	145	02	12	10	67	03	00	4221	05	80	22	33	65	9	8		
144	50	03	144	50	12	10	67	06	00	4221	05	02	14	33	XX	8	8		
145	50	04	145	04	12	10	67	09	00	4221	05	02	13	33	XX	8	8		
146	50	02	145	15	12	10	67	12	00	4221	04	02	11	32	XX	8	8		
147	49	58	145	08	12	10	67	15	00	4221	03	80	14	32	XX	8	8		
148	50	04	145	00	12	10	67	18	00	4221	05	15	15	33	34	8	8		
149	50	02	145	00	13	10	67	00	00	4221	10	03	23	33	33	8	5		
150	50	04	145	15	13	10	67	03	00	4221	11	02	31	35	33	8	3		

TABLE 1

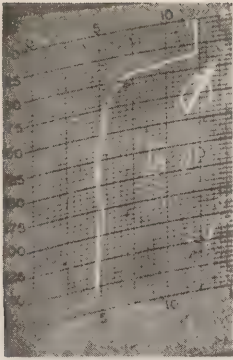
CON No.	LAT		LONG		DATE			GMT		DEPTH Metres	BAR Mbs	WW Code	WIND Amf	W-1		W-2		CLOUD	
	Deg	Min	Deg	Min	Day	Mon	Yr	Hrs	Min					P	H	P	H	T	A
151	50	02	145	21	13	10	67	06	00	4221	15	02	31	36	33			8	3
152	49	59	145	11	13	10	67	09	00	4221	18	02	20	35				8	6
153	49	58	145	14	13	10	67	12	00	4221	20	02	28	35				6	8
154	49	59	145	01	13	10	67	15	00	4221	21	02	20	34				6	8
155	50	01	144	56	13	10	67	18	00	4221	21	02	24	34	33			6	8
156	50	01	145	05	13	10	67	21	00	4221	21	15	23	35	33			6	8
157	49	57	145	12	14	10	67	00	00	4221	19	15	25	36	33			6	8
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159	50	00	145	09	14	10	67	21	00	4221	12	02	19	33	56			8	7
160	49	58	145	12	15	10	67	00	00	4221	10	01	21	33	55			8	6
161	49	57	144	58	15	10	67	03	00	4221	10	01	23	33	56			8	4
162	49	58	144	45	15	10	67	06	00	4221	10	80	19	33	XX			8	6
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164	49	59	145	02	15	10	67	12	00	4221	11	80	28	34	XX			8	6
165	49	59	145	09	15	10	67	15	00	4221	13	02	29	35	XX			8	3
166	49	55	145	14	15	10	67	18	00	4221	15	01	35	46	34			8	3
167	49	54	144	54	15	10	67	21	00	4221	17	02	19	45	46			8	3
168	50	01	144	50	16	10	67	00	00	4221	18	25	22	45	46			9	3
169	50	00	144	56	16	10	67	03	00	4221	19	15	21	45	46			8	4
170	49	57	145	06	16	10	67	06	00	4221	21	25	20	34	46			8	6
171	49	58	145	16	16	10	67	09	00	4221	22	02	15	33	XX			8	6
172	49	57	145	16	16	10	67	12	00	4221	22	02	17	33	45			2	5
173	49	57	144	59	16	10	67	15	00	4221	22	02	10	22	44			2	5
174	49	58	144	53	16	10	67	18	00	4221	22	15	10	22	55			8	7
175	49	57	144	47	16	10	67	21	00	4221	21	02	08	21	44			5	6

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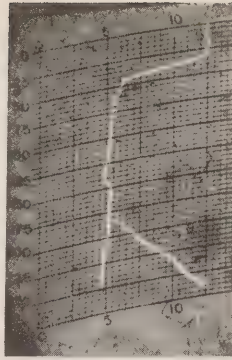
CON No	LAT		LONG		DATE			GMT		DEPTH Metres	BAR Mbs	WW Code	WIND Amt	W-1		W-2		CLOUD	
	Deg	Min	Deg	Min	Day	Mon	Yr	Hrs	Min					P	H	P	H	T	A
176	49	58	144	50	17	10	67	00	00	4221	19	02	10	21	44	3	7		
177	49	57	144	52	17	10	67	03	00	4221	17	15	05	21	44	6	7		
178	49	57	145	09	17	10	67	06	00	4221	15	80	11	21	43	6	8		
179	50	00	145	09	17	10	67	09	00	4221	13	80	12	21	53	6	8		
180	49	59	145	12	17	10	67	12	00	4221	10	80	08	21	52	6	8		
181	49	59	145	09	17	10	67	15	00	4221	08	02	13	21	XX	6	7		
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184	49	58	145	04	18	10	67	00	00	4221	08	02	27	22	54	8	7		
185	49	53	145	04	18	10	67	03	00	4221	09	80	28	22	56	8	7		
186	49	58	145	03	18	10	67	06	00	4221	11	02	34	35	56	8	5		
187	50	01	144	52	18	10	67	15	00	4221	15	02	15	34	XX	6	8		
188	50	01	145	16	18	10	67	18	00	4221	15	25	11	33	35	8	8		
189	50	04	144	58	18	10	67	21	00	4221	11	25	24	34	34	4	8		
190	49	57	145	09	20	10	67	18	00	4221	-96	15	27	44	59	9	7		
191	49	53	145	18	20	10	67	21	00	4221	-96	02	28	34	57	9	6		
192	49	56	144	46	21	10	67	12	00	4221	01	03	24	34	XX	6	7		
193	49	55	144	50	21	10	67	15	00	4221	-99	02	22	33	XX	6	8		
194	49	57	144	59	21	10	67	18	00	4221	-98	02	21	33	44	4	8		
195	50	00	144	58	21	10	67	21	00	4221	-94	51	16	33	34	7	8		
196	50	02	144	56	22	10	67	00	00	4221	-91	61	13	22	34	7	8		
197	50	04	144	59	22	10	67	03	00	4221	-93	51	10	22	34	7	8		
198	50	03	145	00	22	10	67	06	00	4221	-97	61	23	34		7	8		
199	50	00	144	54	22	10	67	09	00	4221	03	61	22	34		7	8		
200	49	59	144	52	22	10	67	12	00	4221	08	02	32	35		8	5		

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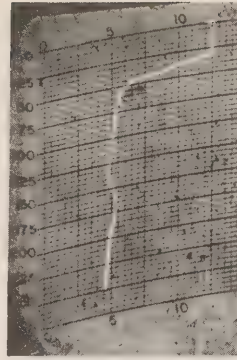
CON No	LAT		LONG		DATE			GMT		DEPTH Metres	BAR Mbs	WW Code	WIND Amt	W-1		W-2		CLOUD	
	Deg	Min	Deg	Min	Day	Mon	Yr	Hrs	Min					P	H	P	H	T	A
201	49	59	144	56	22	10	67	15	00	4221	12	03	31	36				8	6
202	49	56	144	54	22	10	67	18	00	4221	14	02	29	36				8	2
204	49	40	143	40	23	10	67	00	00	4115	12	02	24	36	XX			3	8
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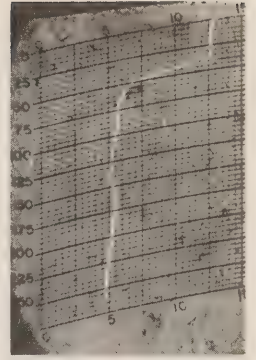
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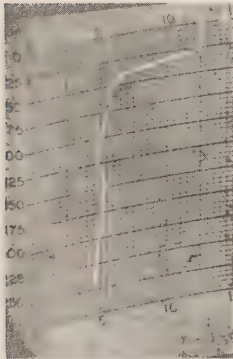
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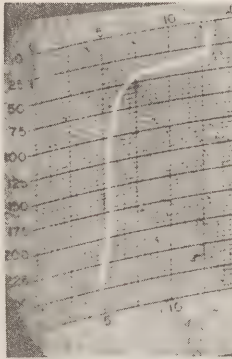
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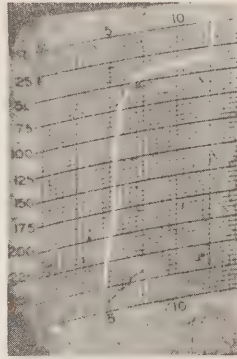
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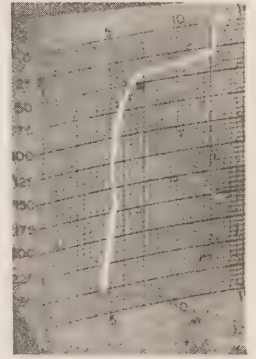
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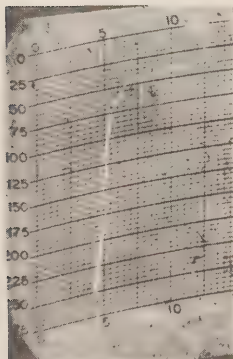
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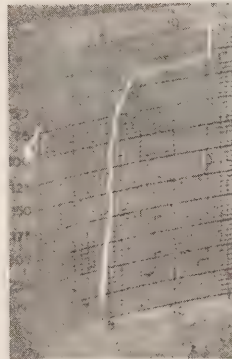
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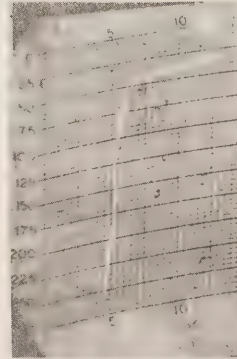
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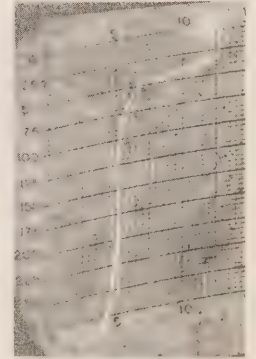
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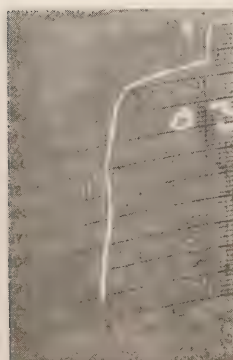
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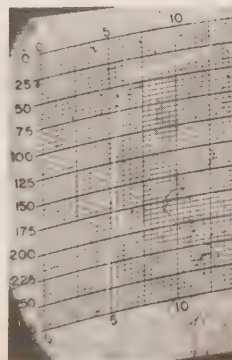
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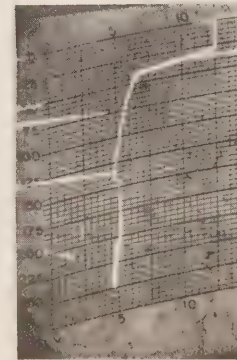
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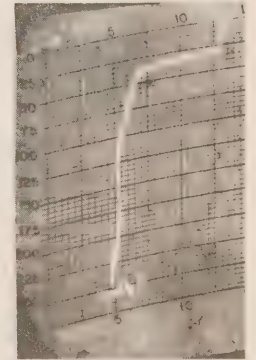
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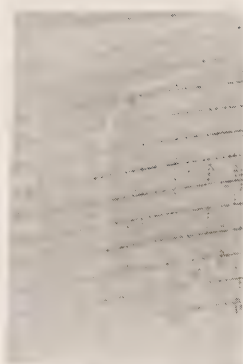
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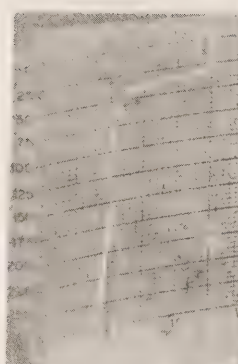
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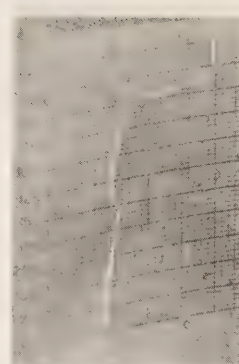
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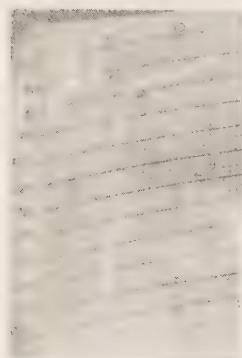
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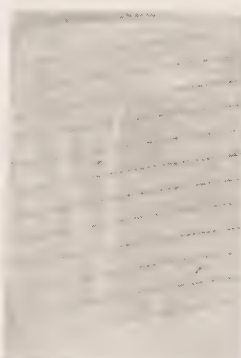
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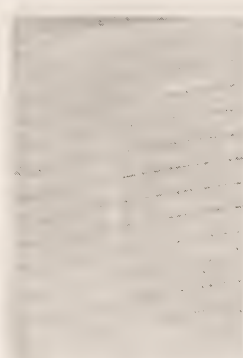
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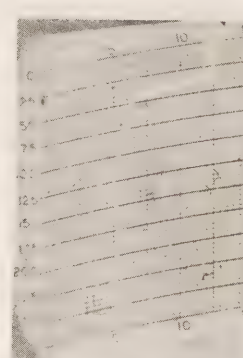
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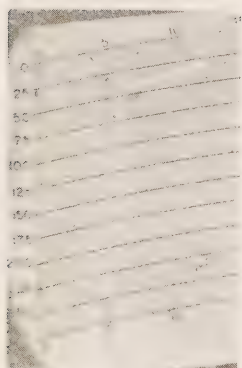
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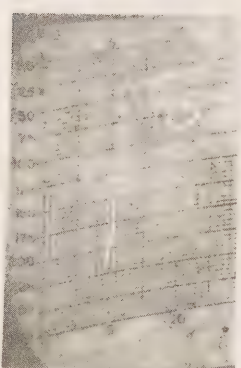
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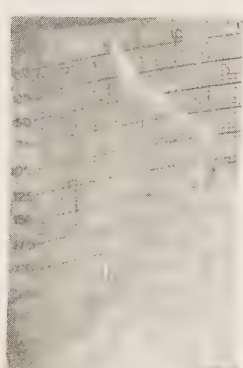
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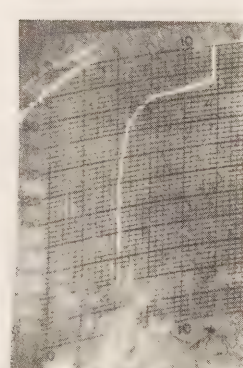
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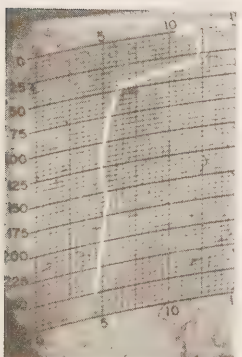
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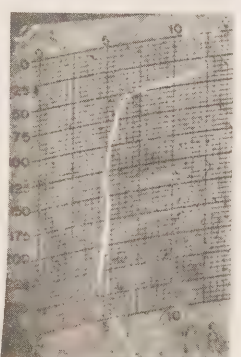
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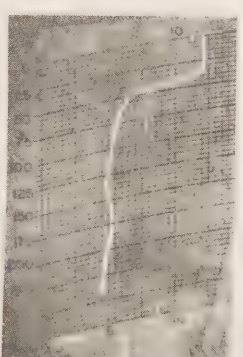
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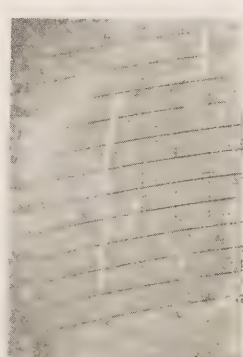
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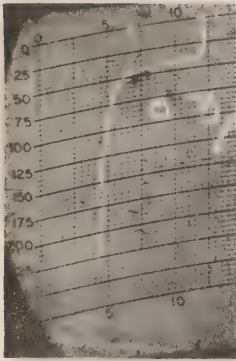
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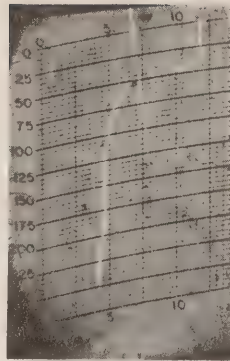
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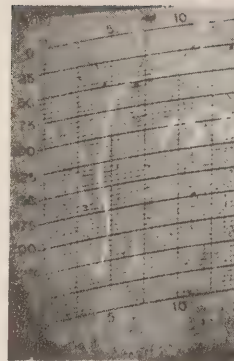
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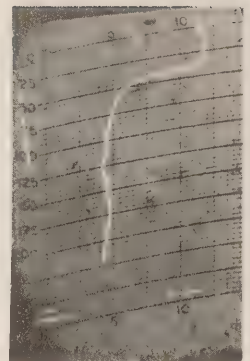
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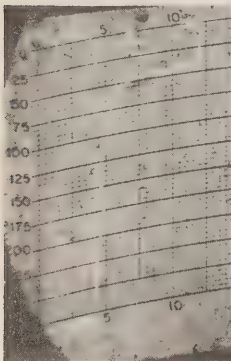
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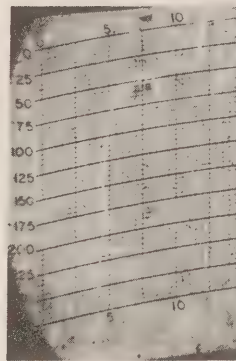
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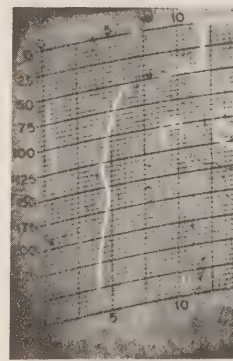
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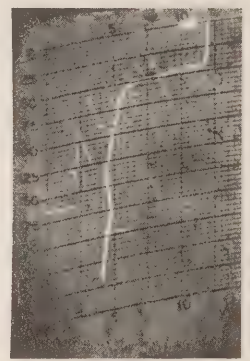
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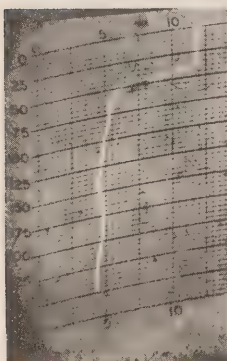
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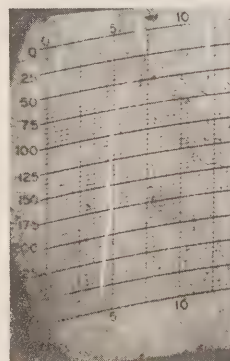
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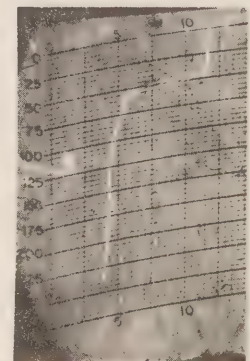
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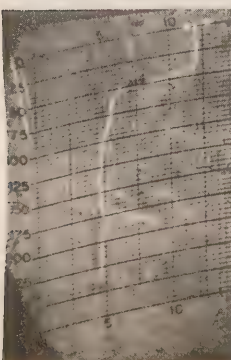
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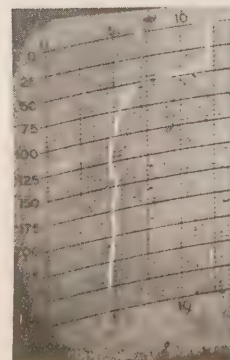
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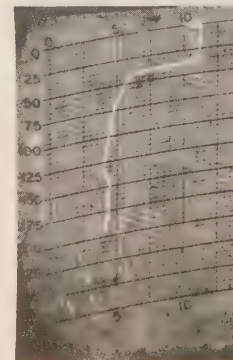
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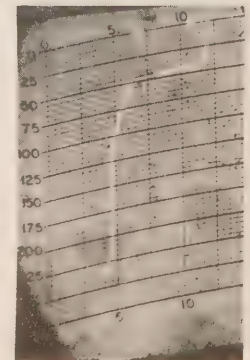
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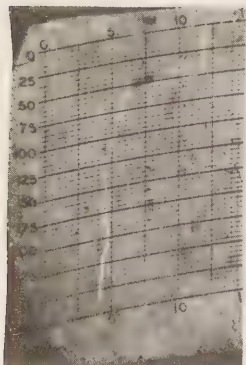
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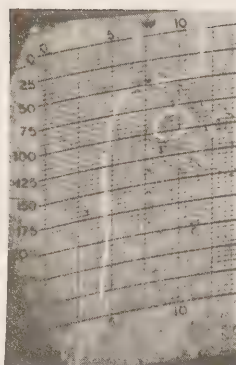
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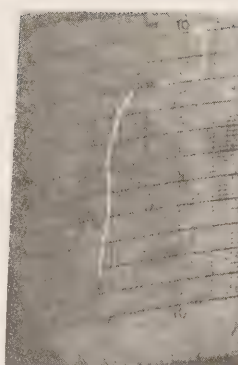
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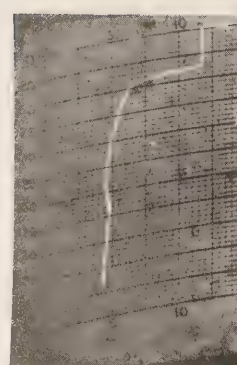
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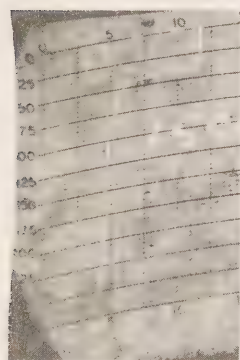
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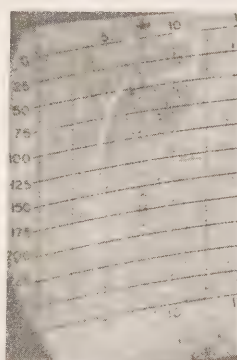
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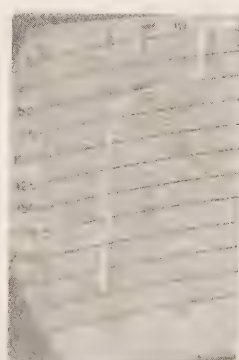
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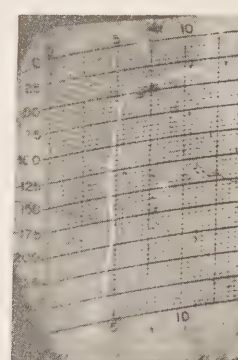
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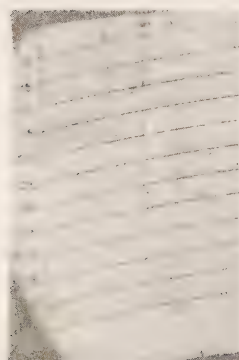
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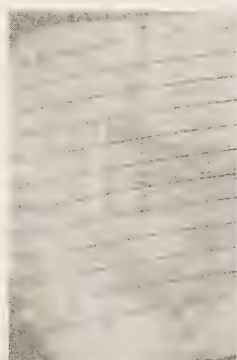
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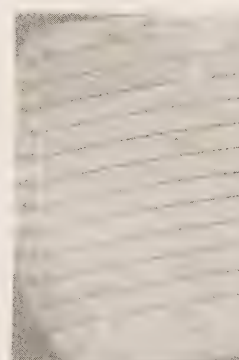
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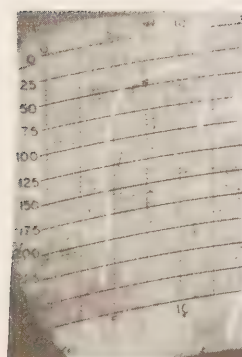
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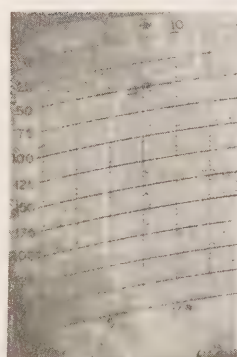
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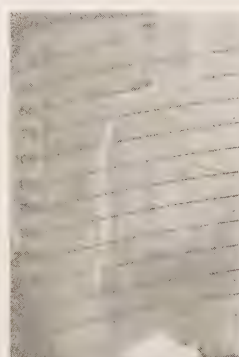
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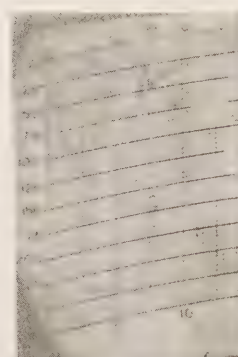
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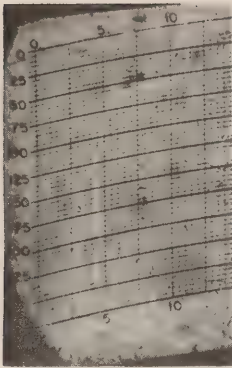
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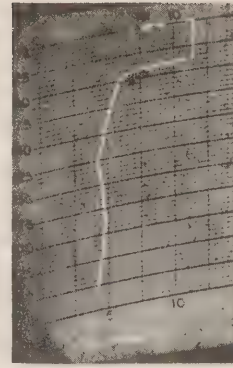
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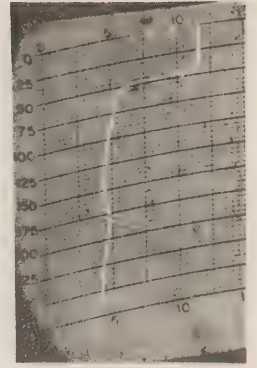
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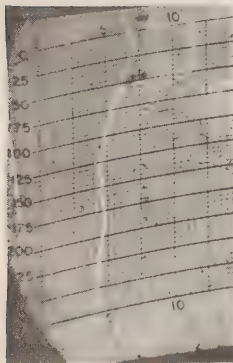
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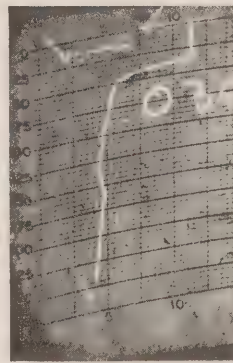
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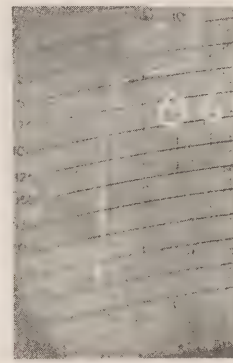
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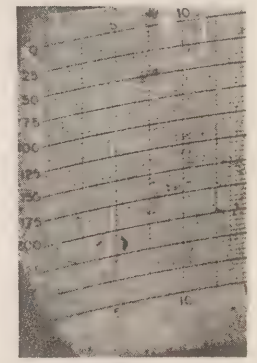
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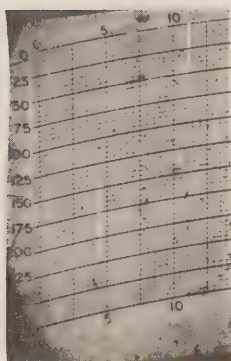
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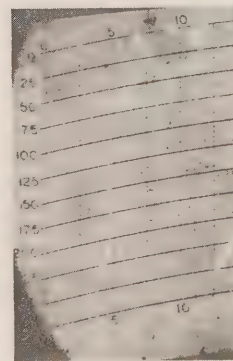
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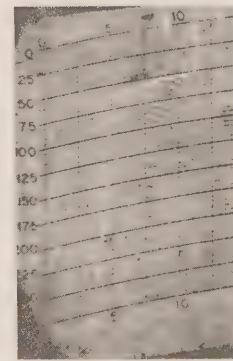
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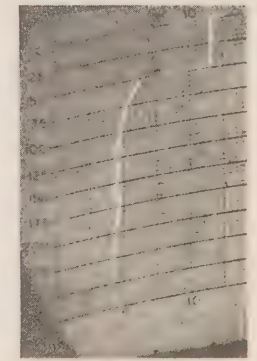
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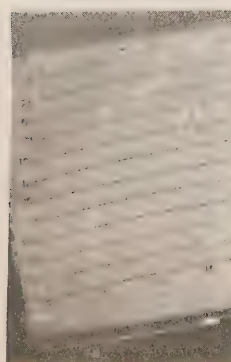
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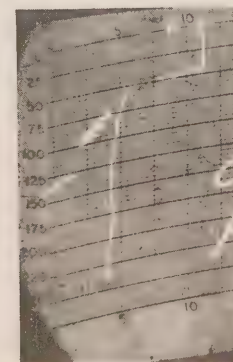
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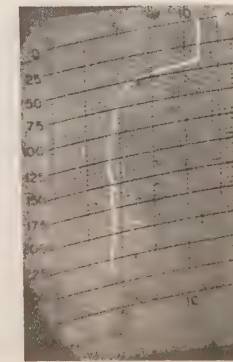
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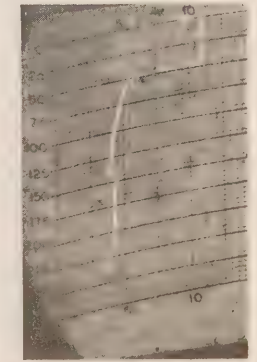
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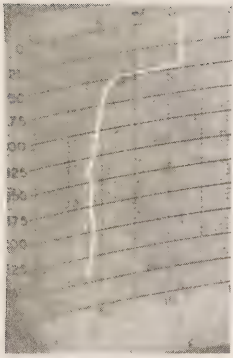
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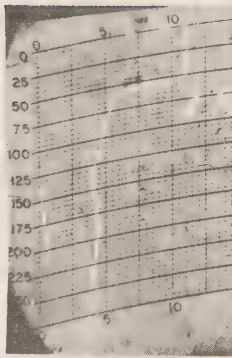
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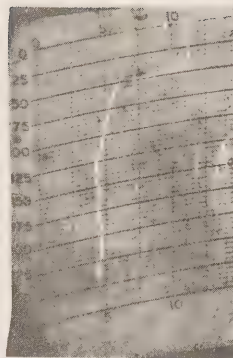
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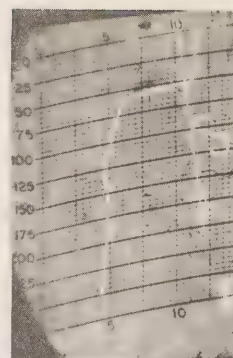
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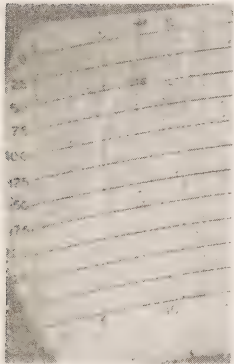
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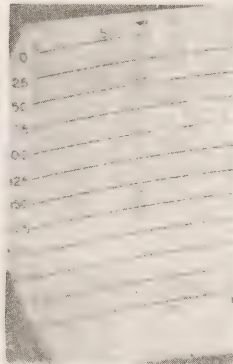
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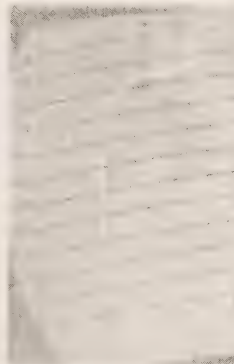
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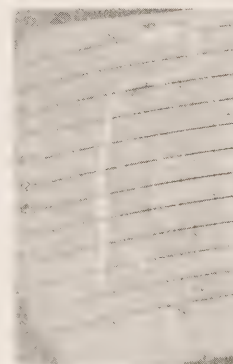
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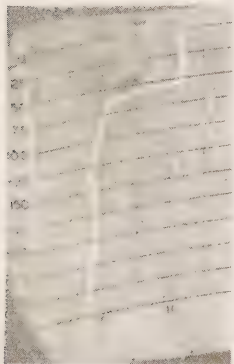
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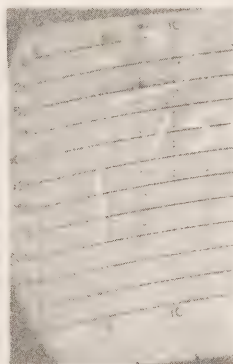
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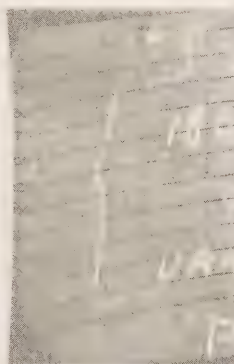
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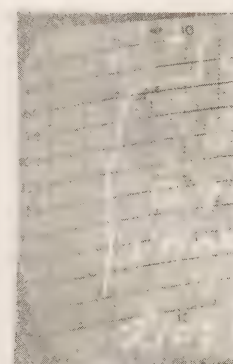
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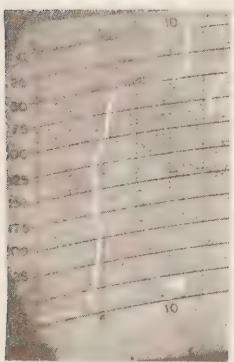
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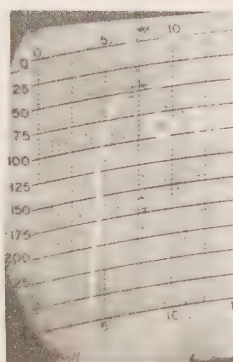
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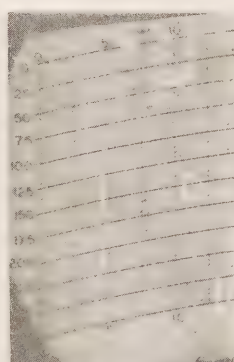
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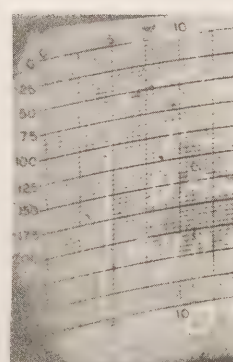
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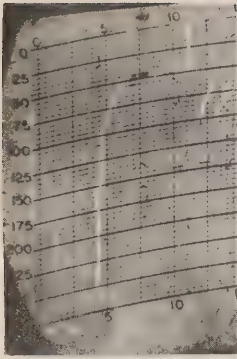
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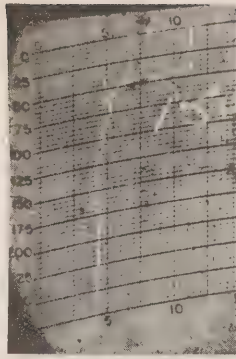
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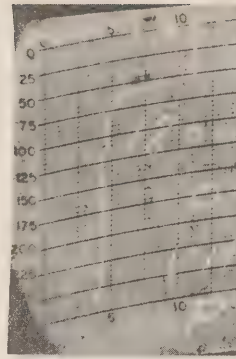
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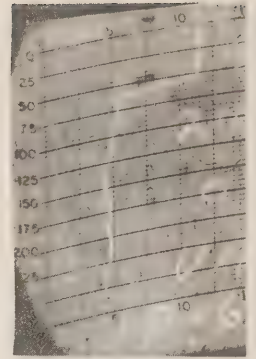
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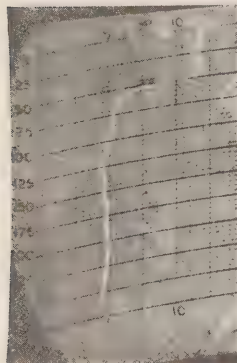
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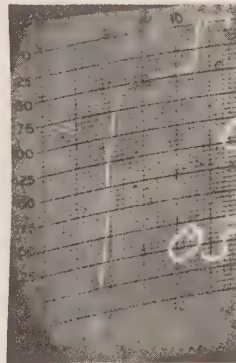
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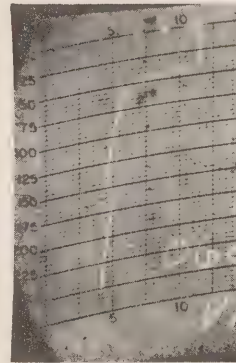
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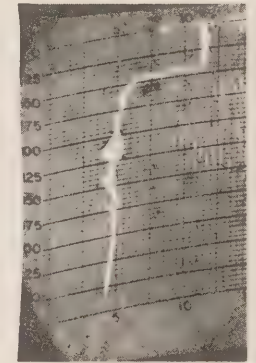
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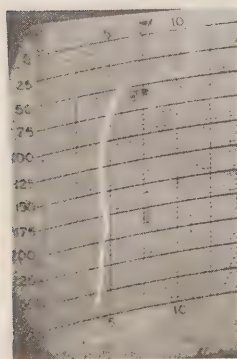
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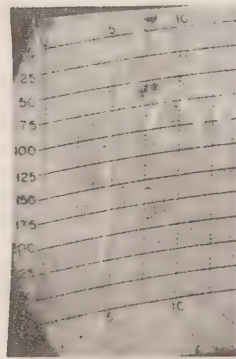
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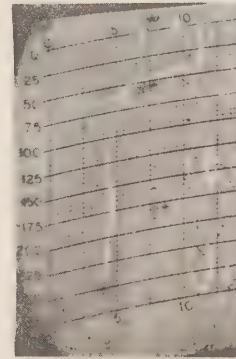
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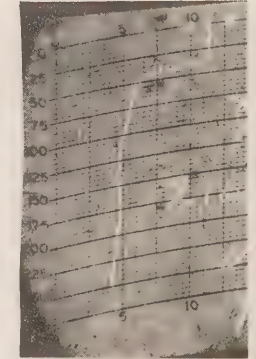
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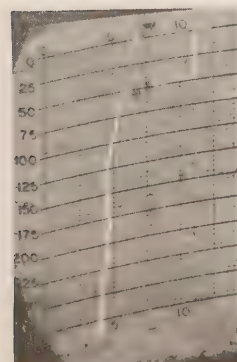
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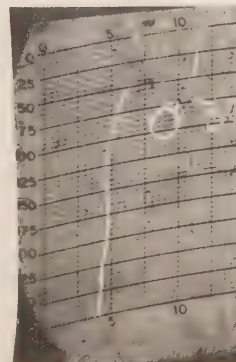
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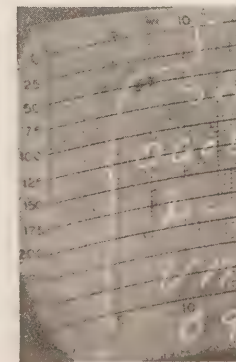
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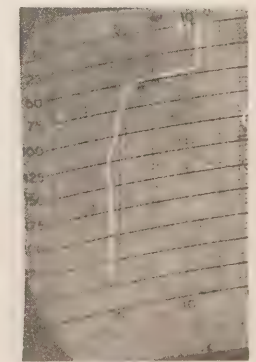
109



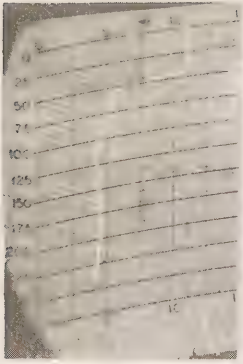
110



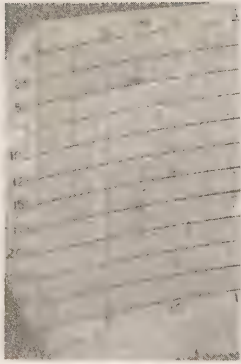
111



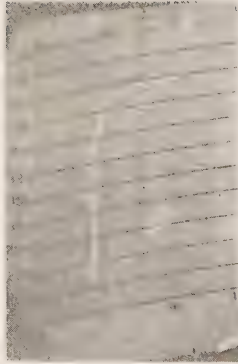
112



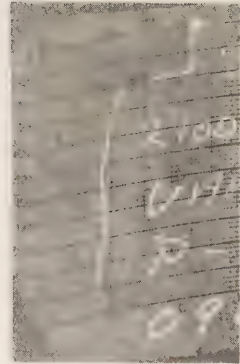
113



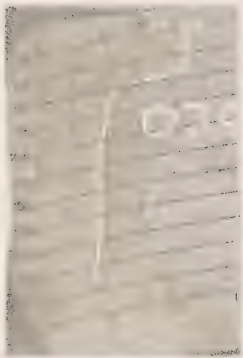
114



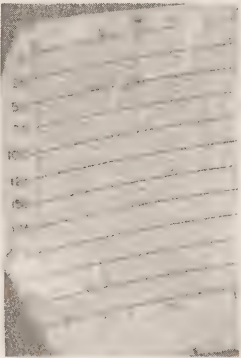
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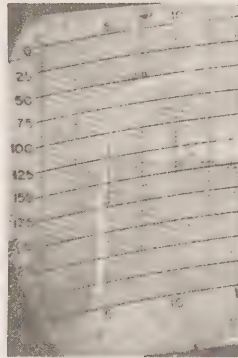
116



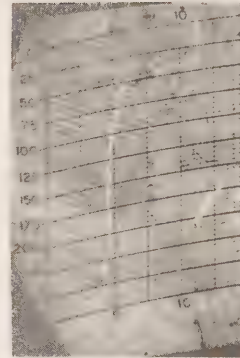
117



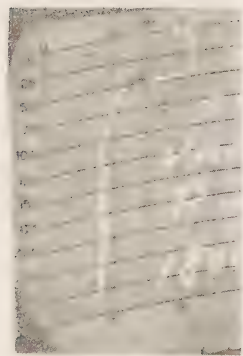
118



119



120



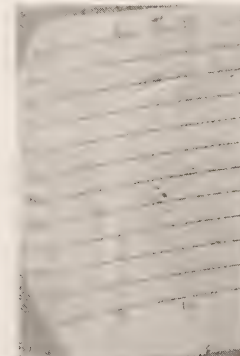
121



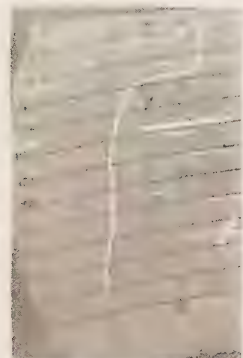
122



123



124



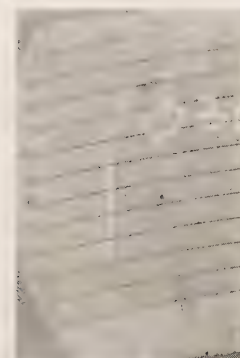
125



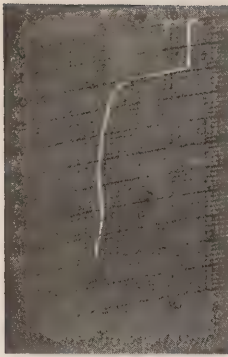
126



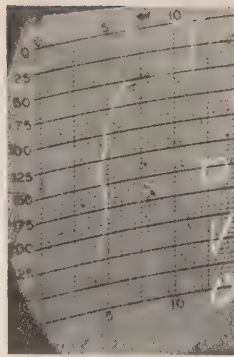
127



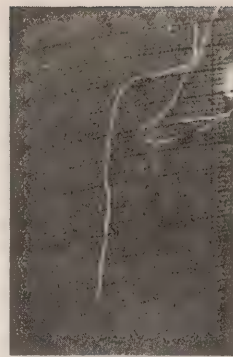
128



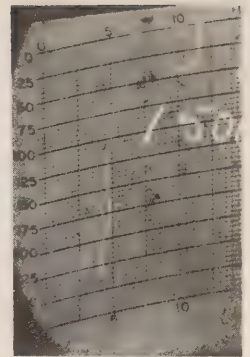
129



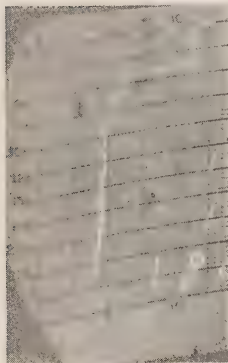
130



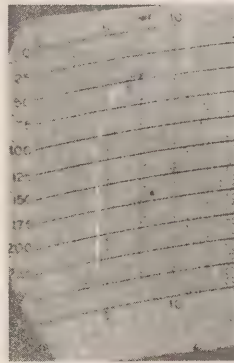
131



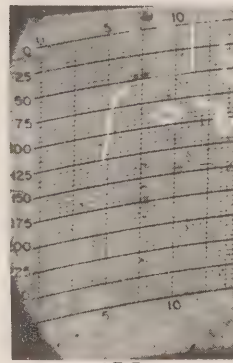
132



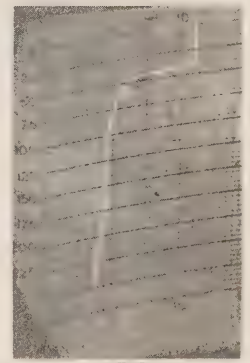
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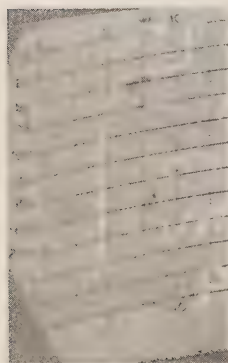
134



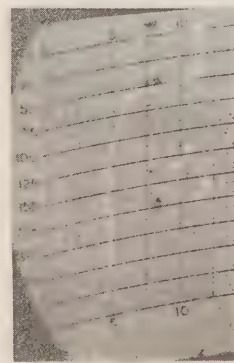
135



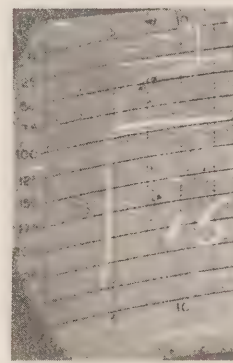
136



137



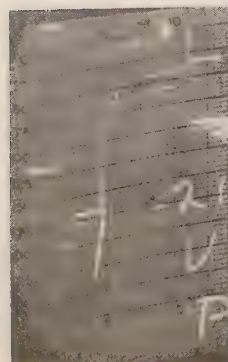
138



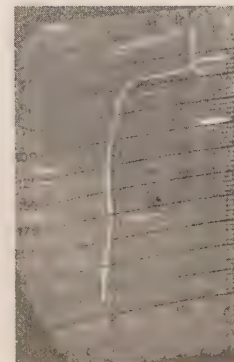
139



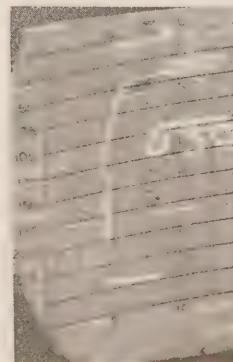
140



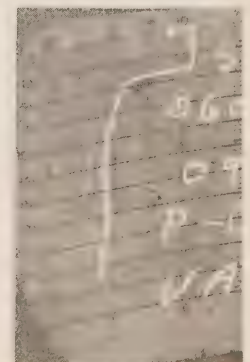
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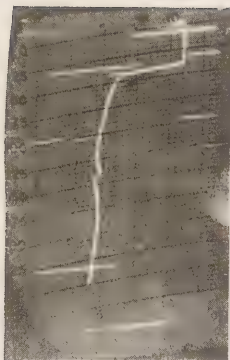
142



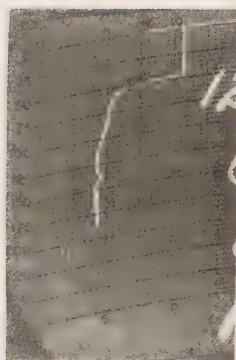
143



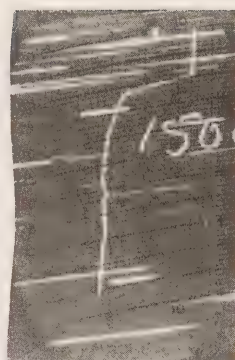
144



145



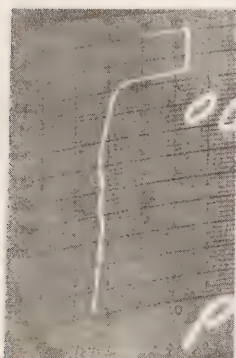
146



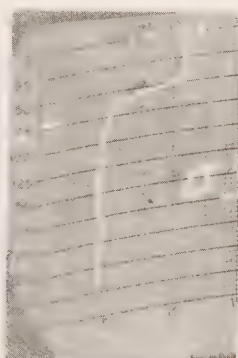
147



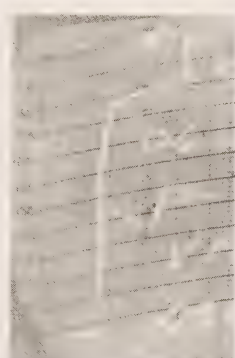
148



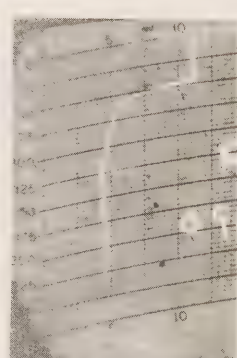
149



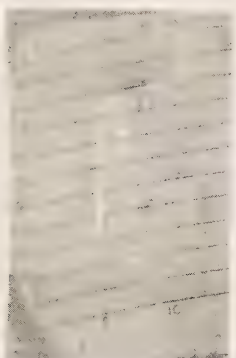
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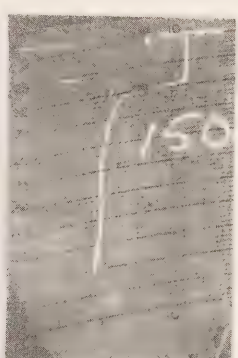
151



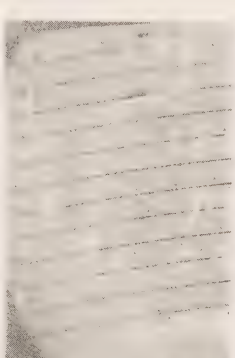
152



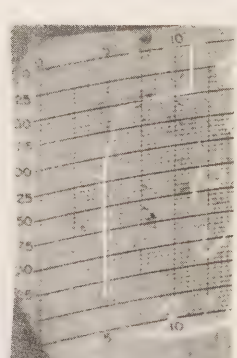
153



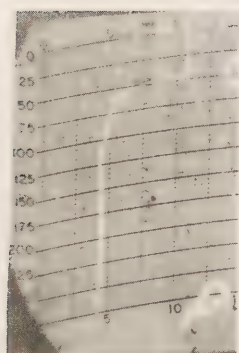
154



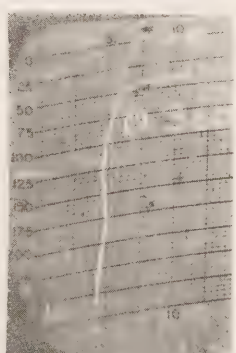
155



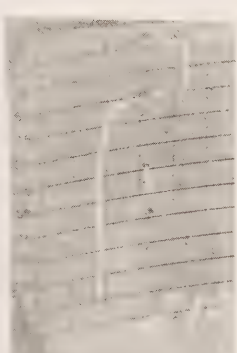
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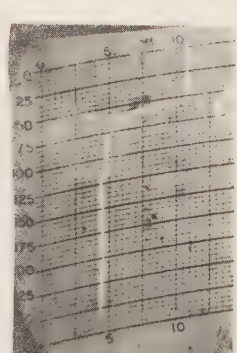
157



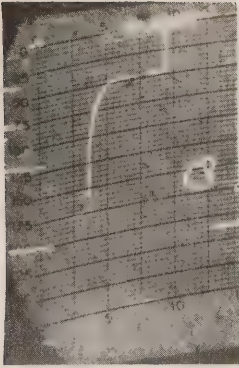
158



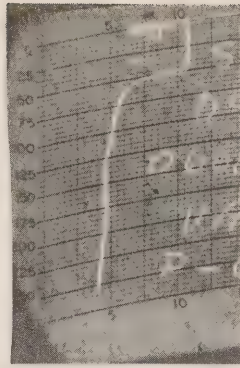
159



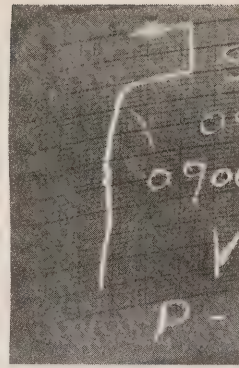
160



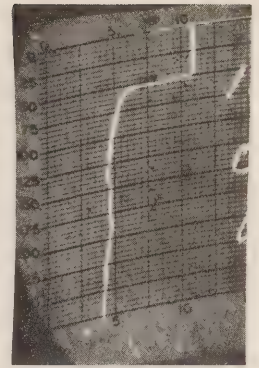
161



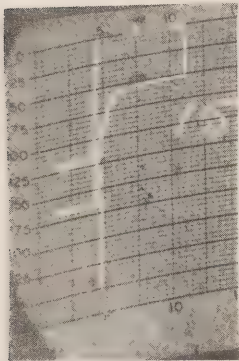
162



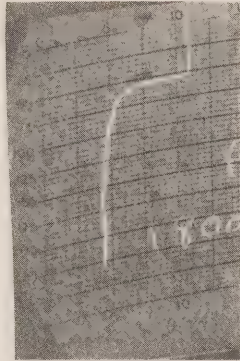
163



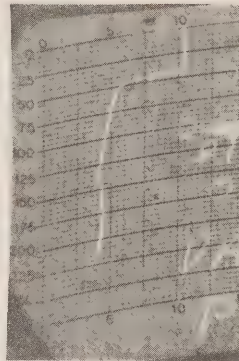
164



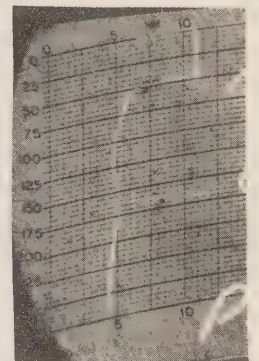
165



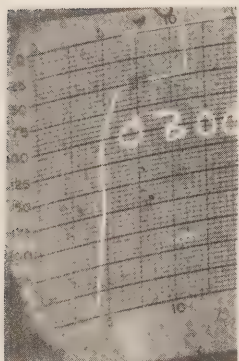
166



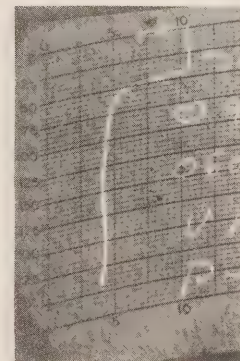
167



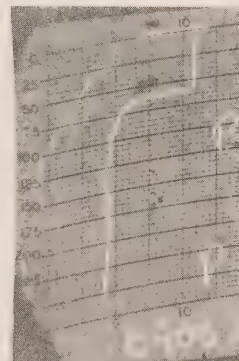
168



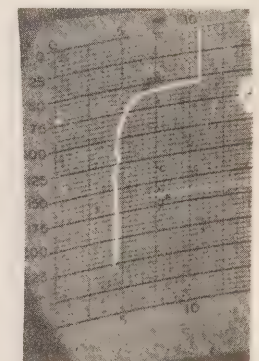
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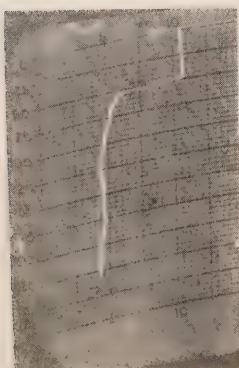
170



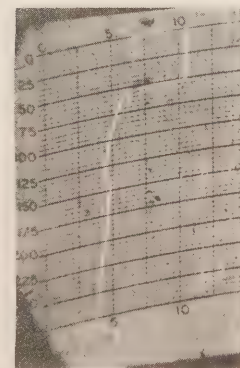
171



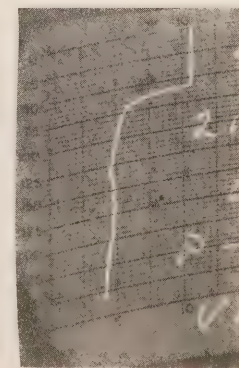
172



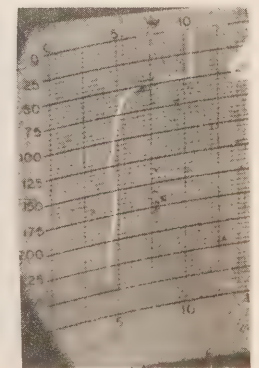
173



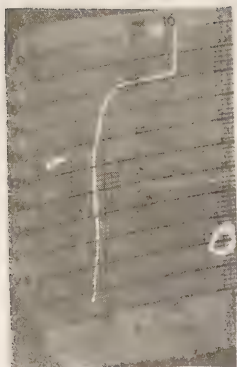
174



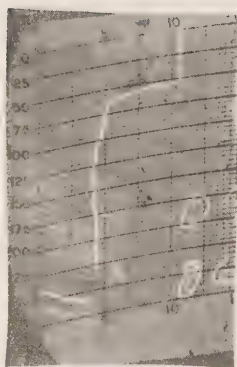
175



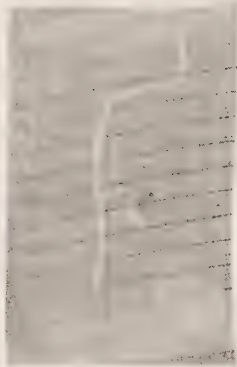
176



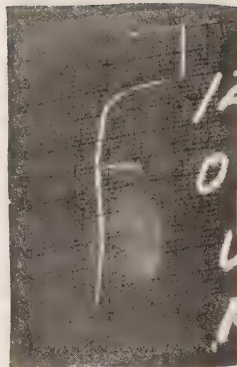
177



178



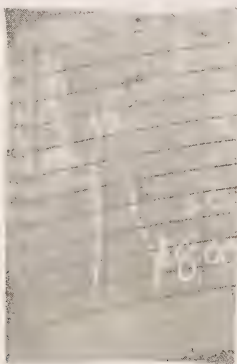
179



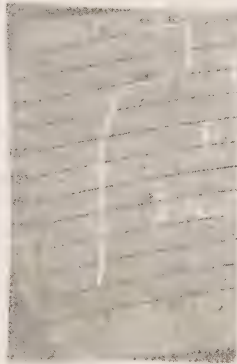
180



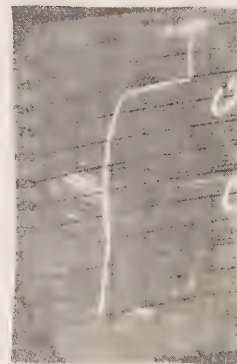
181



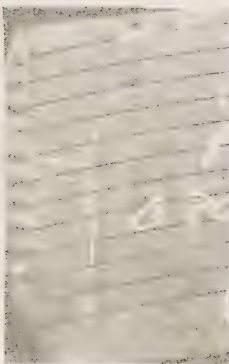
182



183



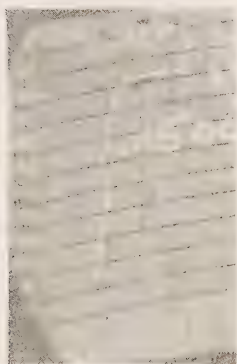
184



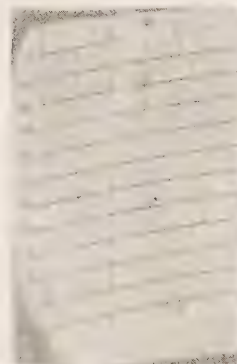
185



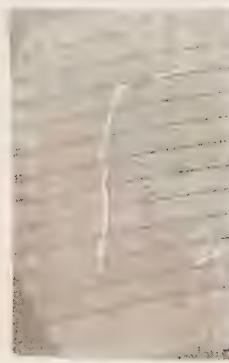
186



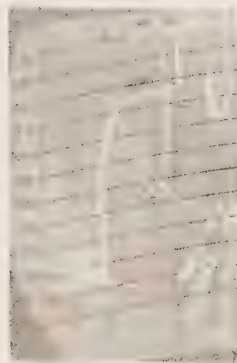
187



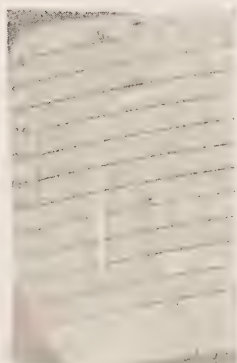
188



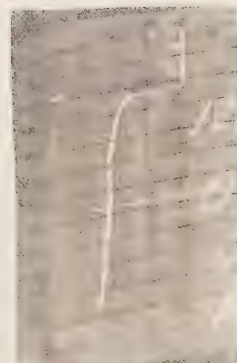
189

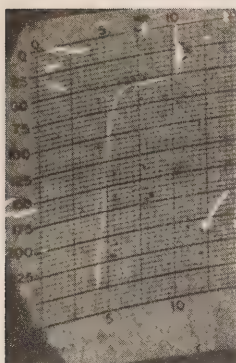


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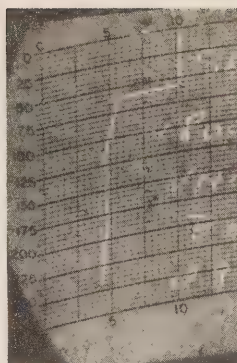


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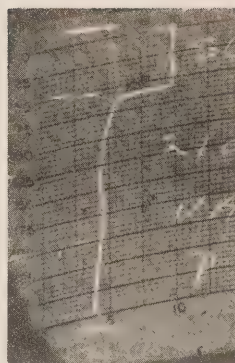




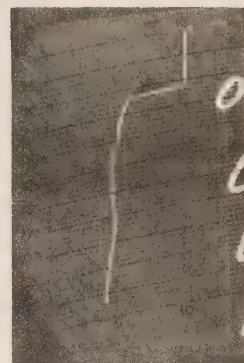
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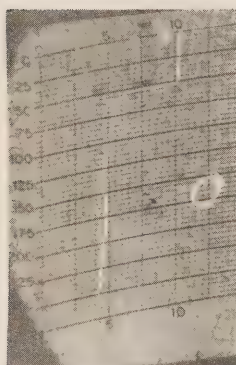
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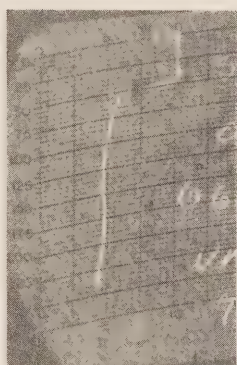
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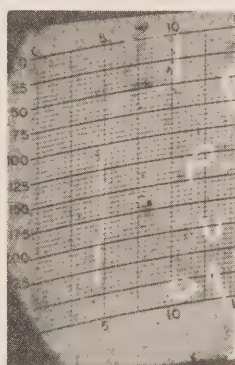
196



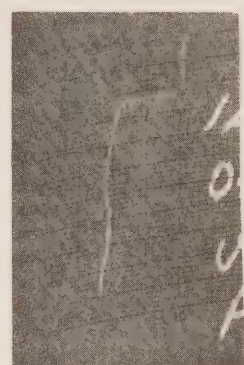
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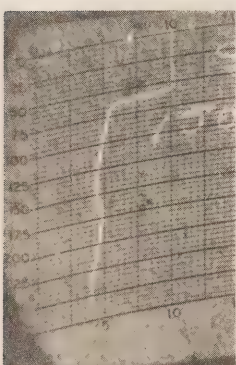
198



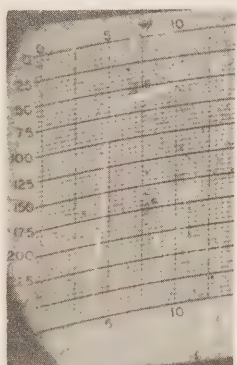
199



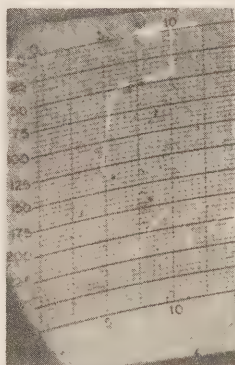
200



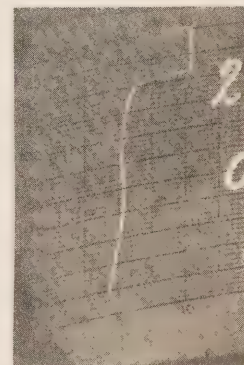
201



202



204



205

CCGS "QUADRA" 02-67-009

BATHYTHERMOGRAMS

TABLE 2

CON No	LAT		LONG		DATE			GMT		DEPTH Metres	BAR Mbs	WW Code	WIND Amt	W-1		W-2		CLOUD	
	Deg	Min	Deg	Min	Day	Mon	Yr	Hrs	Min					P	H	P	H	T	A
1	49	58	142	50	24	10	67	00	15	4221	06	02	04	21		45		6	8
2	49	56	143	18	24	10	67	03	15	4221	04	01	07			45		7	6
3	50	00	143	54	24	10	67	06	05	4221	02	02	12					6	7
4	50	05	144	23	24	10	67	08	45	4221	03	02	30					6	3
5	50	04	145	10	24	10	67	15	00	4221	07	02	24					6	5
6	50	00	144	53	25	10	67	00	00	4221	12	02	26	45				6	7
7	50	06	145	03	25	10	67	03	15	4221	14	02	15	34				6	7
8	50	08	145	18	25	10	67	06	00	4221	14	02	22					6	7
9	50	05	145	11	25	10	67	08	55	4221	13	02	27					8	1
10	49	50	145	00	25	10	67	12	00	4221	11	01	28					8	2
11	50	02	145	10	25	10	67	15	00	4221	07	02	38					8	3
12	49	12	145	26	26	10	67	12	00	4221	-87	02	24					8	5
13	49	23	145	10	26	10	67	18	00	4221	-88	03	24	48		44		6	9
14	40	43	145	00	26	10	67	21	00	4221	-88	02	22	47		46		5	9
15	49	52	145	00	27	10	67	00	00	4221	-87	02	26	47		35		3	3
16	50	05	144	52	27	10	67	03	00	4221	-87	02	19	46		33		3	3
17	50	01	144	49	27	10	67	06	00	4221	-86	02	28					1	6
18	49	55	145	05	27	10	67	09	00	4221	-85	80	26					2	8
19	49	38	145	33	27	10	67	18	00	4221	-93	80	29	58				3	6
20	49	58	145	13	27	10	67	21	00	4221	-96	15	24	58				3	6
21	49	58	145	03	28	10	67	00	00	4221	00	02	27	59				4	7
22	50	00	146	06	28	10	67	12	00	4221	10	03	10					5	7
23	49	58	145	42	28	10	67	18	00	4221	05	02	19					8	6
24	49	03	145	56	29	10	67	18	00	4221	00	02	21	35		47		8	5
25	49	20	145	43	29	10	67	21	00	4221	00	03	10	35		47		8	7

TABLE 2

CON No	LAT		LONG		DATE			GMT		DEPTH Metres	BAR Mbs	WW Code	WIND Am't	W-1		W-2		CLOUD	
	Deg	Min	Deg	Min	Day	Mon	Yr	Hrs	Min					P	H	P	H	T	A
26	49	16	145	36	30	10	67	00	00	4221	00	03	17	35		47		8	3
27	49	33	145	18	30	10	67	03	00	4221	01	02	18	35		47		2	2
28	49	37	145	17	30	10	67	06	00	4221	02	80	22					2	7
29	49	54	145	08	30	10	67	09	00	4221	04	25	20					2	2
30	49	50	145	17	30	10	67	12	00	4221	08	02	23					5	2
31	49	56	145	00	30	10	67	15	00	4221	11	02	18					5	2
32	50	02	144	45	30	10	67	18	00	4221	15	02	20	35		47		8	6
33	50	05	145	05	30	10	67	21	00	4221	17	15	20	35		48		8	6
34	50	06	145	21	31	10	67	00	00	4221	17	01	17	35		58		2	4
35	50	10	145	08	31	10	67	03	00	4221	20	02	14					1	3
36	50	11	145	06	31	10	67	06	00	4221	21	02	15					1	3
37	50	17	145	00	31	10	67	09	00	4221	23	02	16					0	0
38	50	20	144	57	31	10	67	12	00	4221	25	02	13					0	0
39	50	08	144	55	31	10	67	15	00	4221	26	03	10					5	2
40	50	14	144	57	31	10	67	18	00	4221	28	02	06	23		54		5	6
41	50	20	144	43	31	10	67	21	00	4221	28	02	07	23		63		5	7
42	50	08	144	52	01	11	67	00	00	4221	27	02	13	23		53		5	8
43	49	55	145	05	01	11	67	03	00	4221	26	02	13					5	7
44	49	55	145	10	01	11	67	06	00	4221	25	02	16					5	8
45	49	52	145	20	01	11	67	09	00	4221	25	02	14					5	8
46	50	00	145	04	01	11	67	12	00	4221	23	02	15					5	8
47	50	05	145	10	01	11	67	15	00	4221	23	02	12					5	8
48	50	00	145	12	01	11	67	18	00	4221	22	02	17	34		45		5	2
49	49	55	145	18	01	11	67	21	00	4221	24	02	09	34		44		5	8
50	50	03	145	10	02	11	67	00	00	4221	24	02	09	34		45		5	8

TABLE 2

CON No	LAT		LONG		DATE			GMT		DEPTH Metres	BAR Mbs	WW Code	WIND Amt	W-1		W-2		CLOUD	
	Deg	Min	Deg	Min	Day	Mon	Yr	Hrs	Min					P	H	P	H	T	A
51	50	05	145	13	02	11	67	03	00	4221	25	02	08					5	8
52	50	03	145	13	02	11	67	06	00	4221	25	02	04					5	7
53	49	58	145	15	02	11	67	09	00	4221	25	02	12					5	8
54	50	00	145	17	02	11	67	12	00	4221	26	01	09					5	2
55	49	55	145	25	02	11	67	15	00	4221	26	02	13					5	2
56	49	61	145	23	02	11	67	18	00	4221	27	02	14	23		54		5	4
57	49	58	145	26	02	11	67	21	00	4221	26	02	13	23		54		5	7
58	50	01	145	13	03	11	67	00	00	4221	25	02	07	23		53		5	7
59	50	00	145	00	03	11	67	03	00	4221	25	02	11					5	7
60	49	57	145	02	03	11	67	06	00	4221	24	02	08					5	8
61	49	57	145	06	03	11	67	09	00	4221	23	01	13					5	3
62	49	55	145	04	03	11	67	12	00	4221	22	02	08					5	2
63	49	50	145	00	03	11	67	15	00	4221	20	02	08					5	2
64	49	55	145	01	03	11	67	18	00	4221	20	20	04	10		64		6	8
65	50	00	145	02	03	11	67	21	00	4221	19	02	03	10		63		6	7
66	50	00	145	05	04	11	67	00	00	4221	18	20	03	10		63		6	8
67	50	04	145	00	04	11	67	03	00	4221	17	10	04					6	8
68	49	57	145	00	04	11	67	06	00	4221	17	10	06					6	8
69	49	57	145	00	04	11	67	09	00	4221	15	10	07					5	8
70	49	55	144	57	04	11	67	12	00	4221	14	21	03					5	8
71	50	01	145	05	04	11	67	15	00	4221	13	51	08					7	8
72	49	57	145	05	04	11	67	18	00	4221	13	61	09	22		64		7	8
73	50	00	145	03	04	11	67	21	00	4221	11	61	09	10		33		0	8
74	50	01	145	05	05	11	67	00	00	4221	09	61	08	22		33		0	8
75	49	59	145	08	05	11	67	03	20	4221	08	61	08					0	8

TABLE 2

CON No	LAT		LONG		DATE			GMT		DEPTH Metres	BAR Mbs	WW Code	WIND Amt	W-1		W-2		CLOUD	
	Deg	Min	Deg	Min	Day	Mon	Yr	Hrs	Min					P	H	P	H	T	A
76	50	03	144	56	05	11	67	06	00	4221	07	21	08					6	8
77	50	03	144	55	05	11	67	09	00	4221	06	61	11					6	8
78	50	05	144	53	05	11	67	12	00	4221	05	61	19					7	6
79	49	48	144	52	05	11	67	15	00	4221	02	61	27					7	6
80	49	57	144	53	05	11	67	18	00	4221	03	61	26	45		33		7	6
81	50	06	145	00	05	11	67	21	00	4221	02	61	24	45				0	8
82	50	17	145	08	06	11	67	00	00	4221	00	02	26	35				5	8
83	50	01	144	59	06	11	67	03	00	4221	00	61	33					7	4
84	50	08	145	02	06	11	67	06	00	4221	03	02	34					5	8
85	50	26	145	15	06	11	67	09	00	4221	04	02	27					5	8
86	50	25	145	23	06	11	67	12	00	4221	06	01	24					5	3
87	50	08	145	02	06	11	67	18	00	4221	09	60	24	34		33		7	7
88	50	06	144	56	06	11	67	21	00	4221	08	02	10	22		34		5	8
89	49	59	145	01	07	11	67	00	00	4221	07	02	10	22		33		5	6
90	49	56	145	19	07	11	67	03	00	4221	05	80	18					2	3
91	49	50	145	03	07	11	67	06	00	4221	04	21	24					0	8
92	49	56	145	03	07	11	67	09	00	4221	02	61	18					7	6
93	50	00	145	07	07	11	67	12	00	4221	03	01	16					5	2
94	49	57	145	07	07	11	67	15	00	4221	03	02	15					5	2
95	50	06	145	06	07	11	67	18	00	4221	05	03	13	34		33		2	5
96	50	00	145	01	07	11	67	21	00	4221	05	02	18	34				2	5
97	50	07	145	00	08	11	67	00	00	4221	05	02	18	34				2	5
98	50	12	145	00	08	11	67	03	00	4221	05	25	14					9	2
99	50	03	145	08	08	11	67	06	00	4221	06	02	15					2	2
100	50	00	145	13	08	11	67	09	00	4221	05	02	14					4	3

TABLE 2

CON No	LAT		LONG		DATE			GMT		DEPTH Metres	BAR Mbs	WW Code	WIND Amt	W-1		W-2		CLOUD	
	Deg	Min	Deg	Min	Day	Mon	Yr	Hrs	Min					P	H	P	H	T	A
101	50	03	145	10	08	11	67	12	00	4221	03	03	12					4	3
102	50	11	145	15	08	11	67	15	00	4221	-99	02	22					4	5
103	50	10	145	09	08	11	67	18	00	4221	-95	60	30	34	56			7	3
104	50	00	145	03	08	11	67	21	00	4221	-89	60	28	35				7	3
105	49	56	145	01	09	11	67	00	00	4221	-85	21	15	35				7	3
106	49	55	145	05	09	11	67	03	00	4221	86	02	14					7	3
107	50	03	145	06	09	11	67	06	00	4221	-89	45	09					1	9
108	50	08	145	02	09	11	67	09	00	4221	-92	44	11					0	0
109	50	06	145	00	09	11	67	12	00	4221	-97	46	18					6	6
110	50	07	144	50	09	11	67	15	00	4221	-99	10	13					6	4
111	50	06	144	52	09	11	67	18	00	4221	-99	15	17	34	56			7	5
112	50	12	144	50	09	11	67	21	00	4221	-98	10	26	35				5	6
113	50	00	145	00	10	11	67	00	00	4221	-97	02	17	35				8	7
114	49	55	145	09	10	11	67	03	00	4221	-95	61	02					5	8
115	50	07	144	55	10	11	67	06	00	4221	-95	61	11					5	8
116	50	22	144	40	10	11	67	09	00	4221	-96	02	17					5	8
117	50	13	144	46	10	11	67	12	00	4221	-97	02	24					5	8
118	50	06	144	55	10	11	67	15	00	4221	-99	01	14					5	5
119	50	10	144	51	10	11	67	18	00	4221	01	02	17	34	44			5	8
120	50	15	144	48	10	11	67	21	00	4221	02	21	15	33	32			5	8
121	50	02	144	57	11	11	67	00	00	4221	05	02	18	33	43			3	5
122	50	03	144	57	11	11	67	03	00	4221	09	80	23					2	6
123	49	58	144	46	11	11	67	06	00	4221	12	02	26					2	6
124	50	00	144	45	11	11	67	09	00	4221	15	01	22					4	4
125	49	55	144	42	11	11	67	12	00	4221	17	25	27					2	6

TABLE 2

CON No	LAT		LONG		DATE			GMT		DEPTH Metres	BAR Mbs	WW Code	WIND Amt	W-1		W-2		CLOUD	
	Deg	Min	Deg	Min	Day	Mon	Yr	Hrs	Min					P	H	P	H	T	A
126	49	56	144	53	11	11	67	15	00	4221	19	80	22					2	7
127	50	03	144	58	11	11	67	18	00	4221	21	02	22	46				2	5
128	50	13	145	02	11	11	67	21	00	4221	23	02	21	46	55			5	7
129	50	10	144	45	12	11	67	00	00	4221	24	02	16	22	56			5	7
130	49	57	144	43	12	11	67	03	00	4221	24	02	12					5	8
131	49	53	144	41	12	11	67	06	00	4221	27	02	12					5	7
132	49	55	144	40	12	11	67	09	00	4221	27	02	17					5	8
133	49	47	144	30	12	11	67	12	00	4221	26	02	15					5	8
134	49	53	144	34	12	11	67	15	00	4221	25	01	10					5	4
135	50	01	144	49	12	11	67	18	00	4221	24	02	17	22				5	8
136	50	04	145	01	12	11	67	21	00	4221	22	02	11	22	55			4	6
137	49	58	145	01	13	11	67	00	00	4221	19	02	13	22	55			5	7
138	49	50	145	00	13	11	67	03	00	4221	17	02	17					5	6
139	49	56	144	56	13	11	67	06	00	4221	14	02	15					5	7
140	49	50	144	57	13	11	67	09	00	4221	10	02	21					5	6
141	49	47	144	55	13	11	67	12	00	4221	06	02	23					5	6
142	49	50	144	55	13	11	67	15	00	4221	02	02	19					5	6
143	50	00	144	56	13	11	67	18	00	4221	-99	51	14	35				6	8
144	50	00	144	52	13	11	67	21	00	4221	-96	61	23	23	46			7	4
145	49	48	144	50	14	11	67	00	00	4221	-94	61	22	35	46			7	4
146	49	45	144	52	14	11	67	03	00	4221	-93	10	21					0	8
147	50	00	145	05	14	11	67	06	00	4221	-95	10	12					6	6
148	49	55	145	04	14	11	67	09	00	4221	-96	01	12					6	3
149	49	54	144	58	14	11	67	12	00	4221	-98	10	16					6	7
150	49	55	144	53	14	11	67	15	00	4221	00	02	20					5	8

TABLE 2

CON No	LAT		LONG		DATE			GMT		DEPTH Metres	BAR Mbs	WW Code	WIND Amt	W-1		W-2		CLOUD	
	Deg	Min	Deg	Min	Day	Mon	Yr	Hrs	Min					P	H	P	H	T	A
151	49	54	144	54	14	11	67	18	00	4221	04	02	27	36				5	7
152	50	05	145	06	14	11	67	21	00	4221	06	02	21	35	55			5	6
153	50	14	145	12	15	11	67	00	00	4221	08	16	21	22	55			2	5
154	50	15	145	08	15	11	67	03	00	4221	09	02	15					8	7
155	50	04	145	01	15	11	67	06	00	4221	10	02	20					8	8
156	50	00	145	00	15	11	67	09	00	4221	11	02	23					8	5
157	50	06	145	00	15	11	67	12	00	4221	11	02	27					8	8
158	50	10	144	55	15	11	67	15	00	4221	10	10	28					7	8
159	50	07	144	57	15	11	67	18	00	4221	12	10	17	34	32			6	8
160	50	00	145	02	15	11	67	21	00	4221	15	01	19	34				1	2
161	49	58	145	07	16	11	67	00	00	4221	17	02	18	33	34			1	1
162	50	07	145	06	16	11	67	06	00	4221	22	03	17					1	2
163	50	07	145	06	16	11	67	09	00	4221	22	02	10					5	5
164	50	10	145	05	16	11	67	12	00	4221	22	02	10					5	8
165	50	10	145	03	16	11	67	15	00	4221	20	02	12					5	8
166	50	05	145	00	16	11	67	18	00	4221	17	61	18	33	35			7	8
167	50	06	145	05	16	11	67	21	00	4221	15	61	21	34	55			6	8
168	50	07	145	06	17	11	67	00	00	4221	11	61	28	46	43			7	6
169	50	00	145	00	17	11	67	06	00	4221	01	61	21					7	8
170	49	57	145	15	18	11	67	03	00	4221	28	02	20					8	4
171	50	13	145	35	18	11	67	06	00	4221	28	03	15					8	1
172	50	00	145	12	18	11	67	09	00	4221	28	01	21					0	1
173	49	56	144	55	18	11	67	12	00	4221	28	02	18					0	3
174	50	04	144	56	18	11	67	15	00	4221	27	02	26					5	3
175	50	04	145	00	18	11	67	18	00	4221	27	02	22	33	34			5	2

TABLE 2

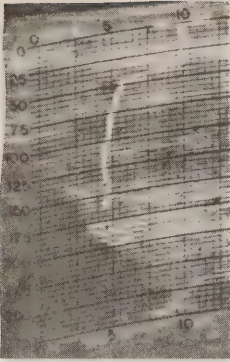
CON No	LAT		LONG		DATE			GMT		DEPTH Metres	BAR Mbs	WW Code	WIND Amt	W-1		W-2		CLOUD	
	Deg	Min	Deg	Min	Day	Mon	Yr	Hrs	Min					P	H	P	H	T	A
176	49	56	145	00	18	11	67	21	00	4221	27	02	28	33		35		5	2
177	49	50	145	00	19	11	67	00	00	4221	25	02	30	33		46		5	3
178	49	40	145	10	19	11	67	03	00	4221	25	02	30					5	3
179	49	49	145	12	19	11	67	06	00	4221	23	02	30					5	8
180	50	04	145	01	19	11	67	09	00	4221	24	02	26					6	8
181	49	53	145	17	19	11	67	18	00	4221	27	45	18	35				1	9
182	49	52	145	16	19	11	67	21	00	4221	28	45	07	35		54		1	9
183	49	57	145	17	20	11	67	00	00	4221	28	42	04	43		45		0	0
184	49	59	145	16	20	11	67	03	00	4221	28	45	10					1	9
185	49	59	145	16	20	11	67	06	00	4221	27	51	15					7	3
186	50	00	145	18	20	11	67	09	00	4221	27	02	20					7	3
187	50	03	145	20	20	11	67	12	00	4221	25	61	23					6	8
188	50	03	145	08	20	11	67	15	00	4221	26	51	21					7	8
189	50	09	145	08	20	11	67	18	00	4221	26	45	23	44		56		1	9
190	50	03	144	55	20	11	67	21	00	4221	26	10	23	44		56		6	8
191	50	02	144	58	21	11	67	00	00	4221	26	02	24	45		56		5	8
192	50	05	145	00	21	11	67	03	00	4221	26	02	28					5	1
193	50	08	145	00	21	11	67	06	00	4221	26	02	23					5	5
194	49	59	145	04	21	11	67	09	00	4221	26	02	25					5	8
195	50	02	145	03	21	11	67	12	00	4221	25	10	22					6	8
196	50	05	145	06	21	11	67	15	00	4221	23	10	23					6	7
197	50	06	145	08	21	11	67	18	00	4221	24	61	24	34		36		7	8
198	50	00	144	57	21	11	67	21	00	4221	25	10	10	35		35		5	3
199	50	05	145	00	22	11	67	00	00	4221	28	02	17	35				0	5
200	50	08	144	55	22	11	67	03	00	4221	29	10	14					6	8

TABLE 2

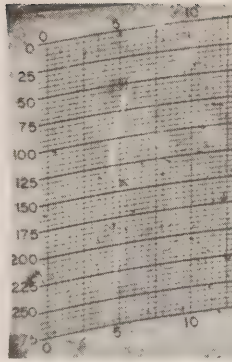
CON No	LAT		LONG		DATE			GMT		DEPTH Metres	BAR Mbs	WW Code	WIND Amt	W-1		W-2		CLOUD	
	Deg	Min	Deg	Min	Day	Mon	Yr	Hrs	Min					P	H	P	H	T	A
201	50	03	144	56	22	11	67	06	00	4221	30	51	08					7	8
202	49	58	145	00	22	11	67	09	00	4221	28	10	11					7	8
203	50	00	144	53	22	11	67	12	00	4221	27	41	18					0	0
204	50	03	144	54	22	11	67	15	00	4221	24	44	21					0	0
205	50	10	144	57	22	11	67	18	00	4221	21	51	21	36				7	8
206	50	14	144	53	22	11	67	21	00	4221	19	10	27	47				5	8
207	50	10	145	00	23	11	67	00	00	4221	18	45	26	47				1	9
208	49	42	145	51	23	11	67	12	00	4221	20	02	24					5	8
209	49	48	145	35	23	11	67	15	00	4221	20	01	24					5	3
210	50	00	145	09	23	11	67	18	00	4221	21	02	30	36	34			1	2
211	50	00	144	36	23	11	67	21	00	4221	21	01	27	46	34			4	3
212	49	58	144	47	25	11	67	00	00	4221	30	02	08	46	58			5	5
213	50	04	144	57	25	11	67	03	00	4221	29	61	10					6	8
214	50	07	145	06	25	11	67	06	00	4221	26	61	20					6	8
215	49	53	144	53	25	11	67	15	00	4221	18	21	16					6	6
216	49	55	144	52	25	11	67	18	00	4221	19	10	18	45	44			5	8
217	49	58	144	57	25	11	67	21	00	4221	20	10	16	34	45			5	8
218	50	00	144	58	26	11	67	00	00	4221	20	44	10	33	45			0	0
219	50	04	144	55	26	11	67	03	00	4221	19	42	06					0	0
220	50	06	144	53	26	11	67	06	00	4221	19	51	11					6	8
221	50	07	144	51	26	11	67	09	00	4221	19	02	16					5	8
222	50	03	144	55	26	11	67	12	00	4221	19	02	19					5	8
223	50	02	144	48	26	11	67	15	00	4221	19	25	26					2	5
224	50	07	144	50	26	11	67	18	00	4221	22	02	35	47				2	5
225	50	04	145	13	27	11	67	06	00	4221	28	02	25					2	5

TABLE 2

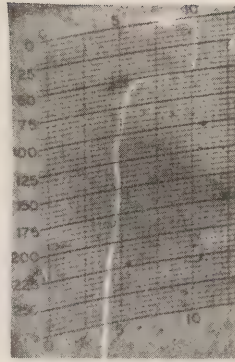
CON No	LAT		LONG		DATE			GMT		DEPTH Metres	BAR Mbs	WW Code	WIND Amt	W-1		W-2		CLOUD	
	Deg	Min	Deg	Min	Day	Mon	Yr	Hrs	Min					P	H	P	H	T	A
226	49	56	145	00	27	11	67	09	00	4221	28	02	20					0	0
227	50	06	144	53	27	11	67	12	00	4221	27	02	18					5	8
228	50	05	144	50	27	11	67	15	00	4221	25	02	26					5	8
229	50	05	144	55	27	11	67	18	00	4221	21	61	28	46		44		7	5
230	50	07	144	55	27	11	67	21	00	4221	18	61	25	45		45		7	6
231	50	06	145	00	28	11	67	00	00	4221	16	51	20	44		44		0	8
232	50	02	145	15	28	11	67	03	00	4221	16	10	25					7	3
233	50	05	145	29	28	11	67	06	00	4221	16	10	27					5	8
234	50	01	145	00	28	11	67	09	00	4221	16	61	31					5	8
236	50	13	145	15	30	11	67	21	00	4221	-97	61	30	46		56		7	6



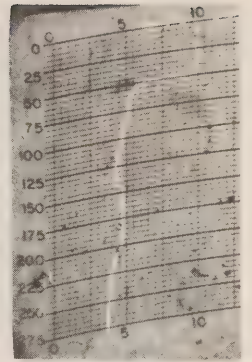
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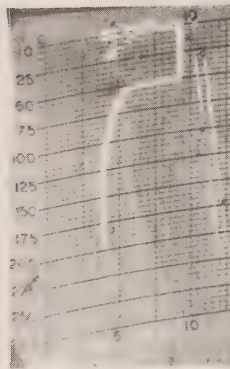
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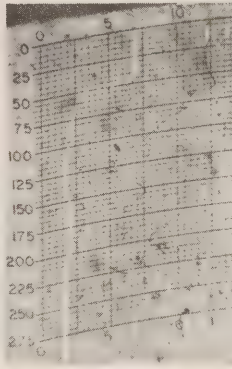
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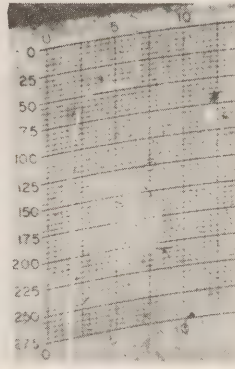
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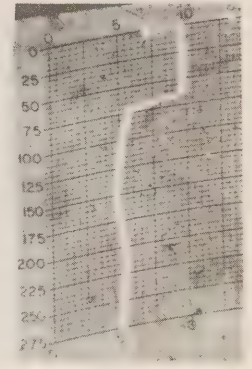
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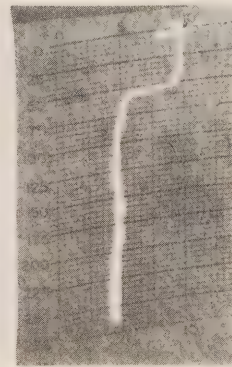
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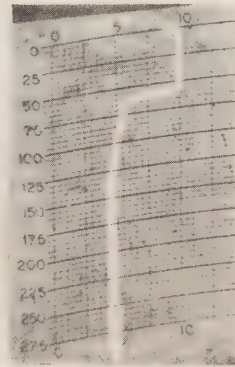
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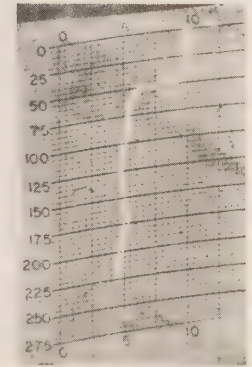
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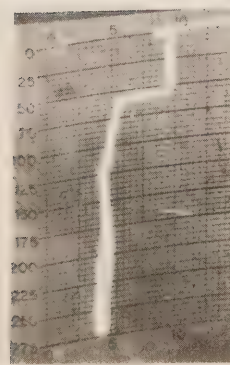
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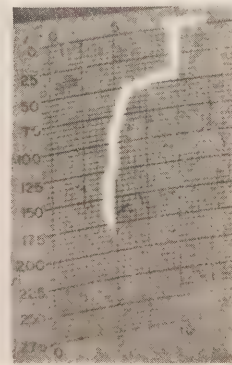
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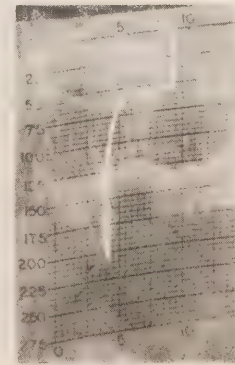
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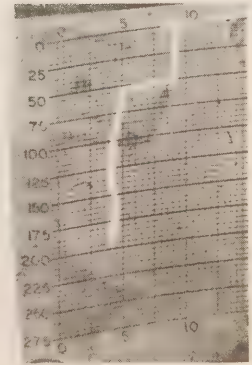
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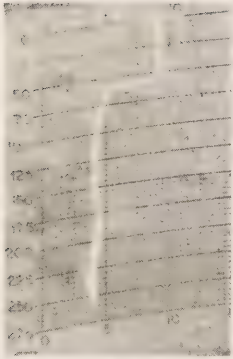
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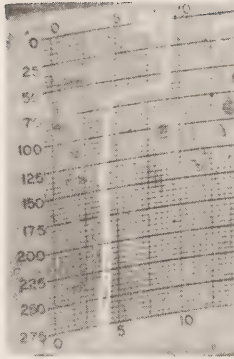
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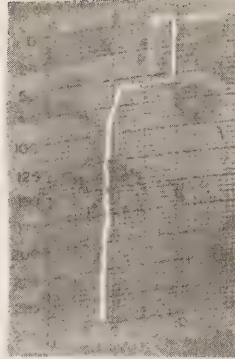
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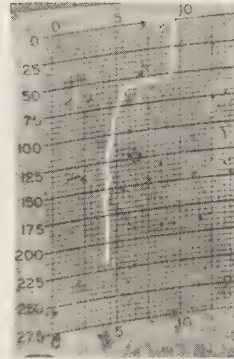
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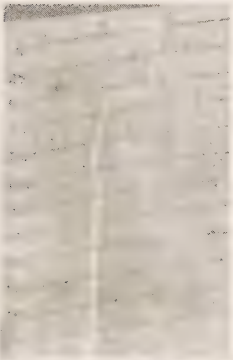
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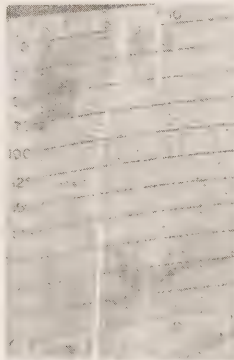
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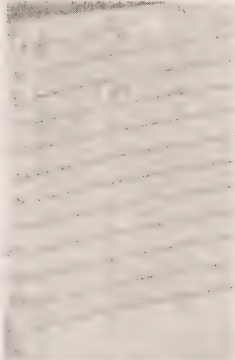
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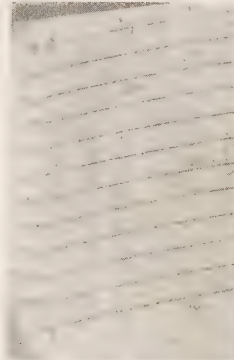
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22



23



24



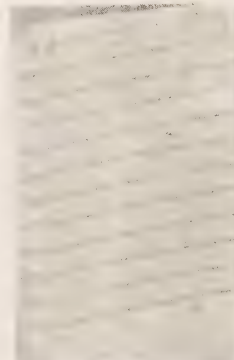
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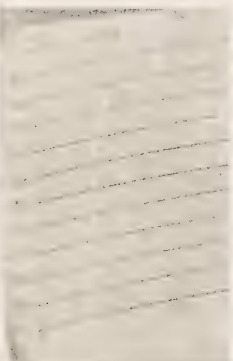
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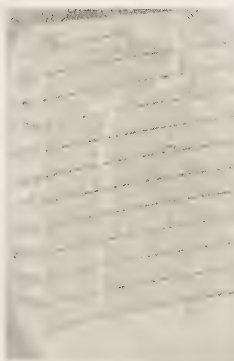
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28



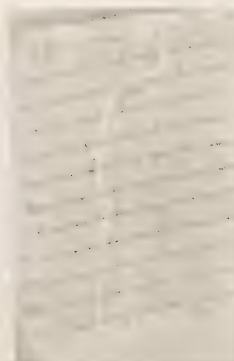
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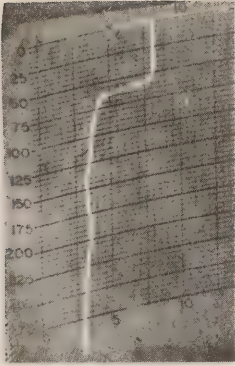
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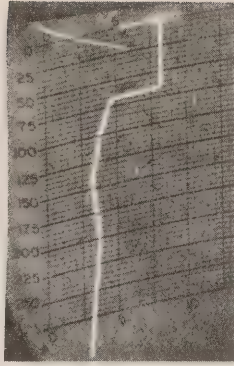
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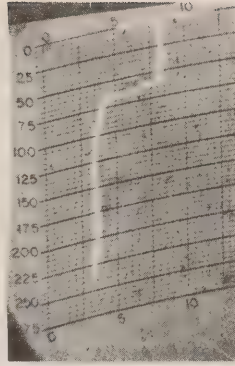
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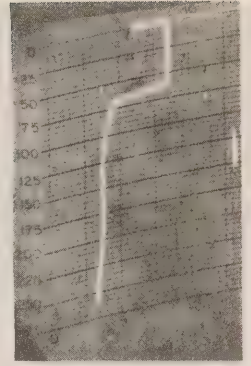
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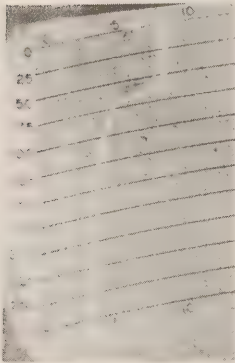
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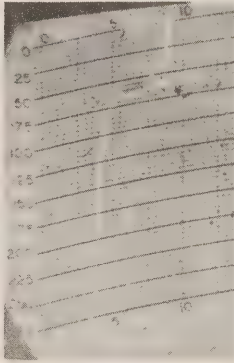
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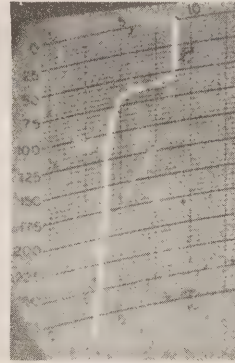
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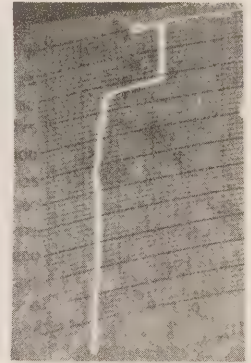
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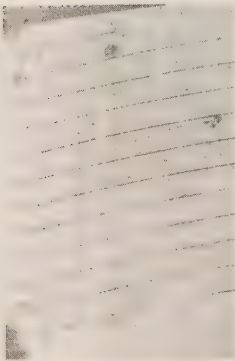
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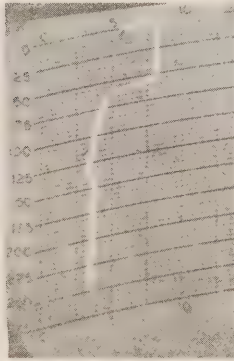
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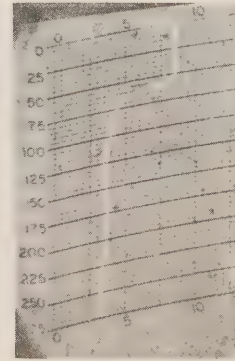
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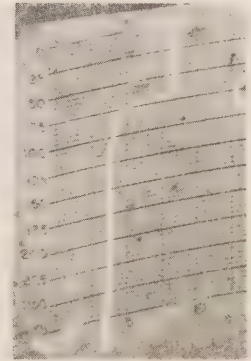
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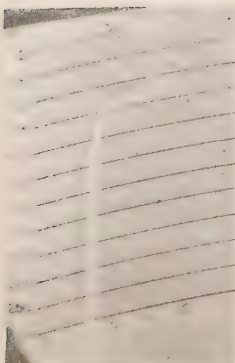
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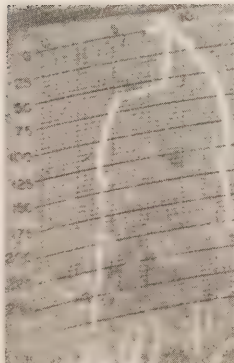
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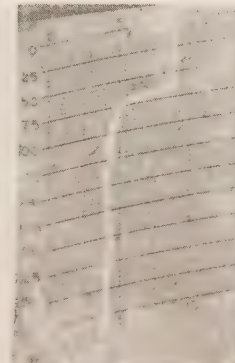
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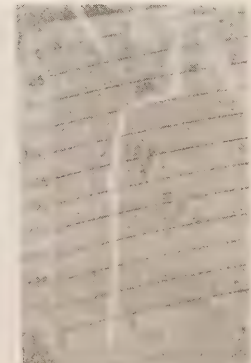
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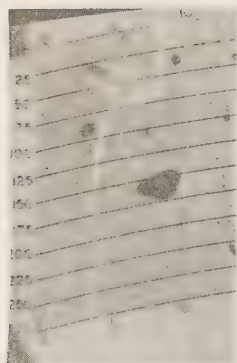
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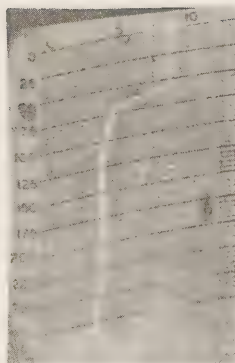
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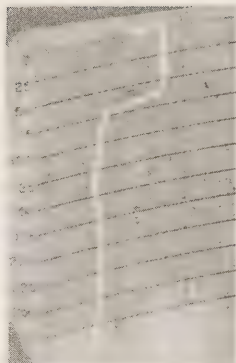
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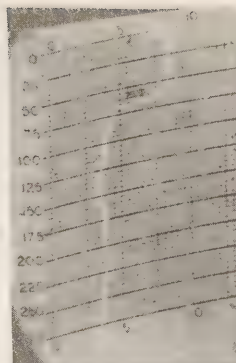
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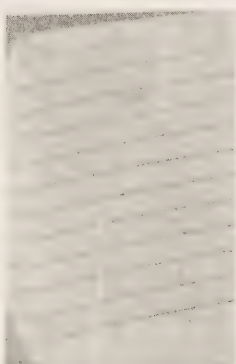
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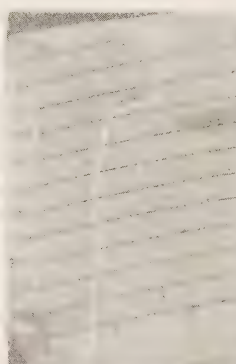
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53

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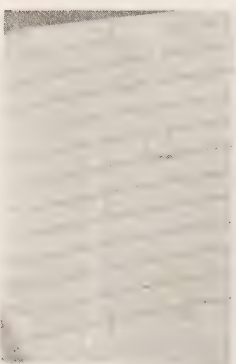
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56

57

58



59

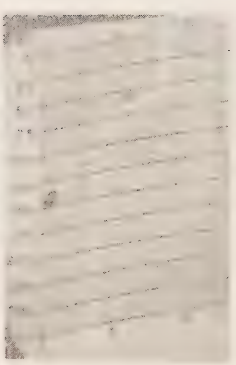
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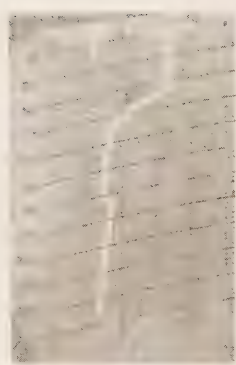
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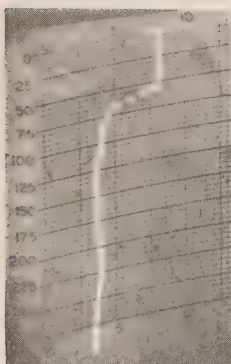
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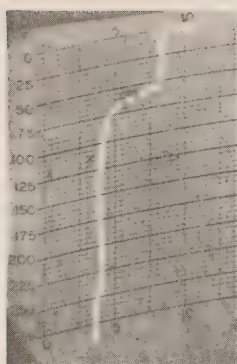
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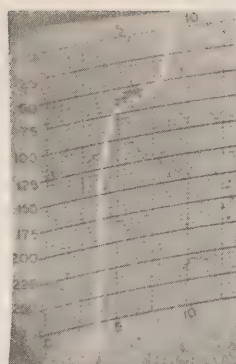
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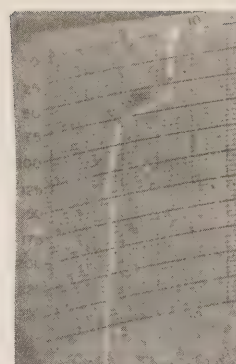
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66



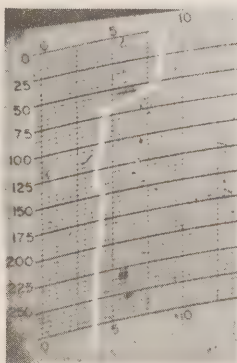
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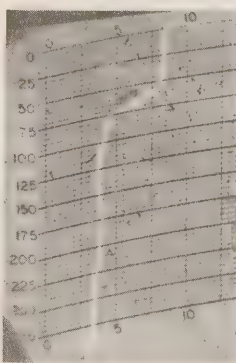
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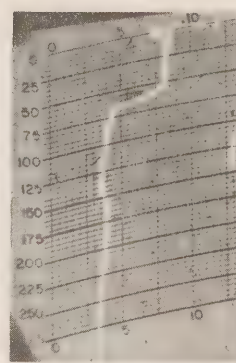
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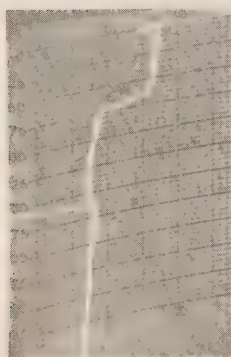
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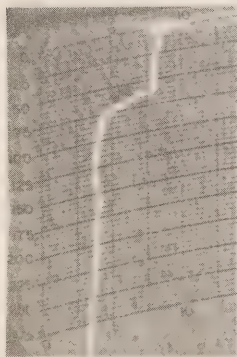
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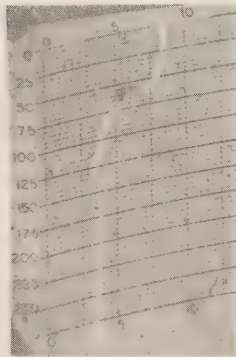
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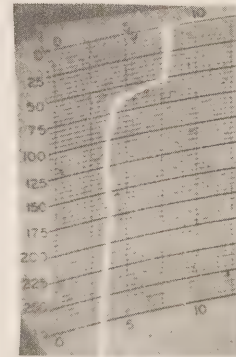
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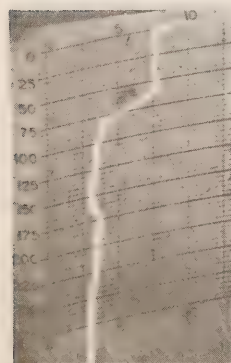
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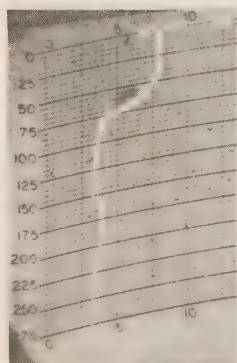
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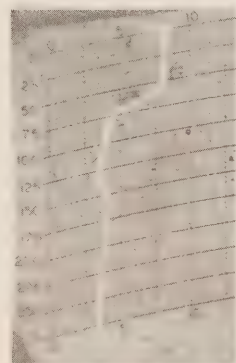
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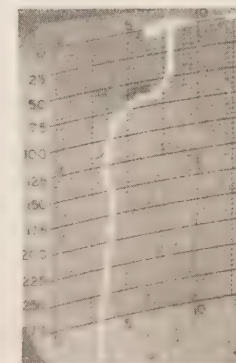
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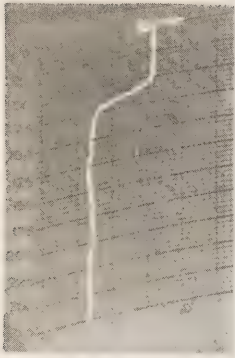
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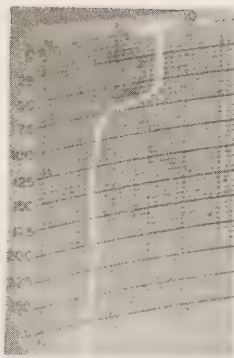
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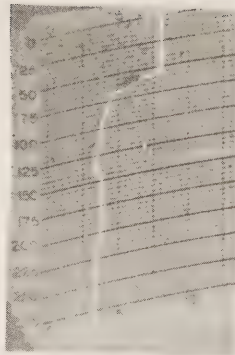
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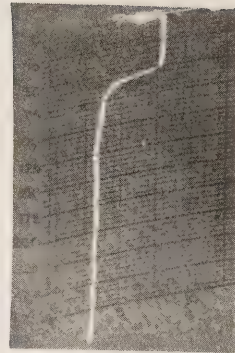
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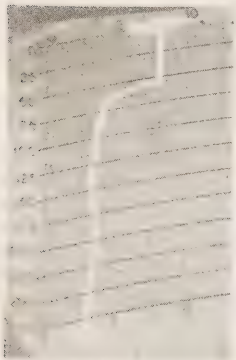
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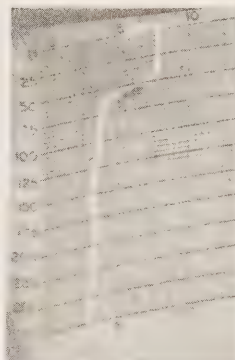
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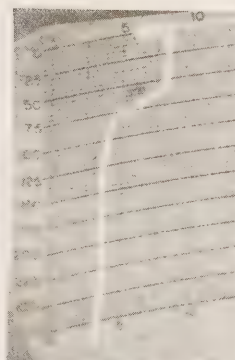
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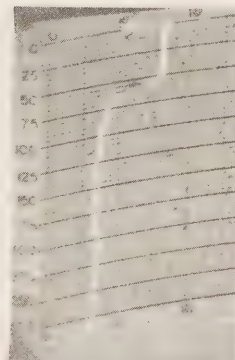
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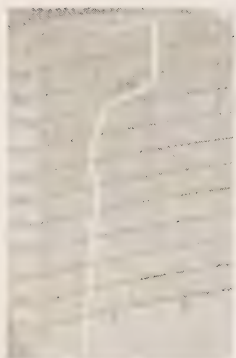
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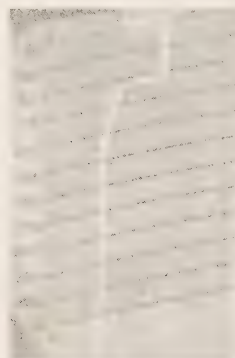
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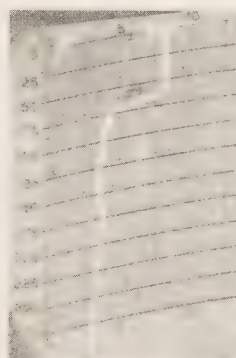
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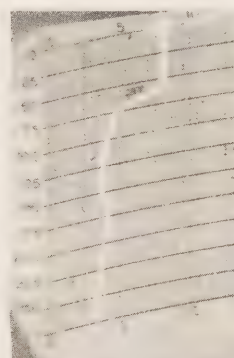
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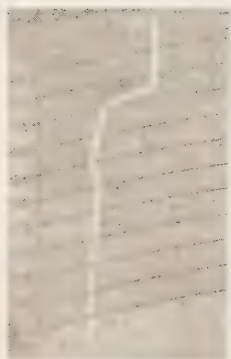
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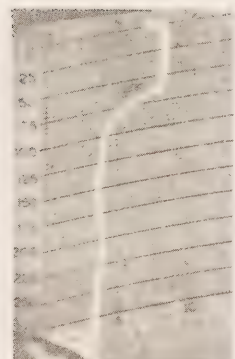
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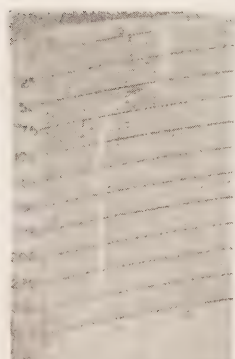
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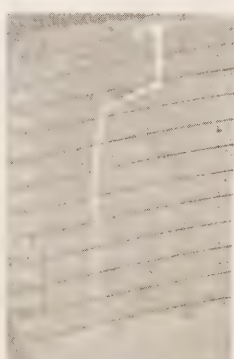
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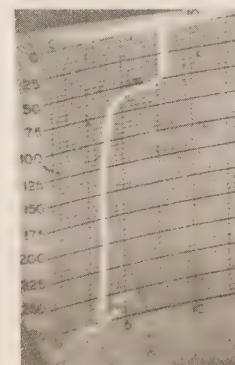
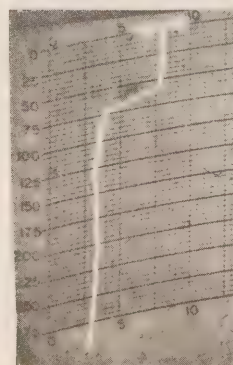
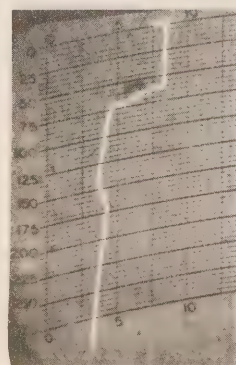
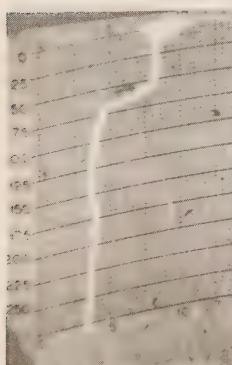
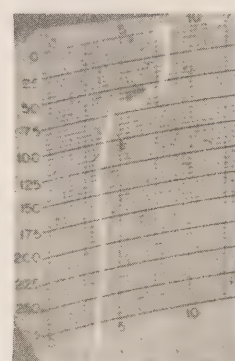
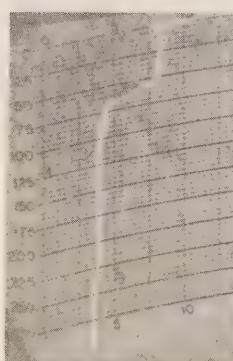
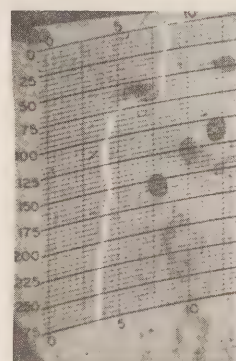
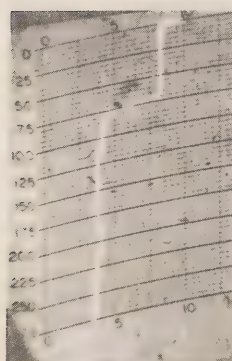
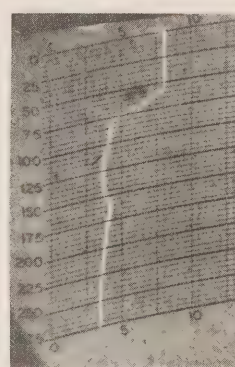
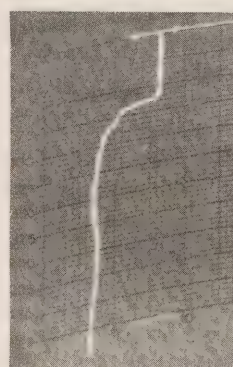
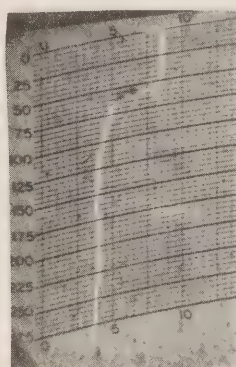
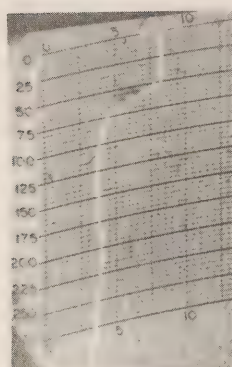
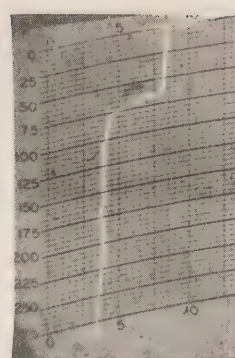
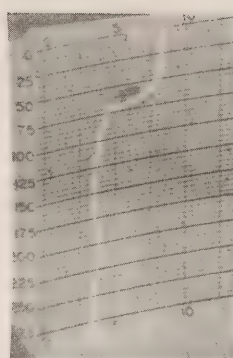
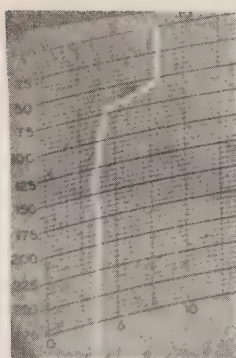
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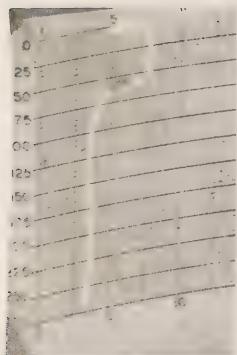


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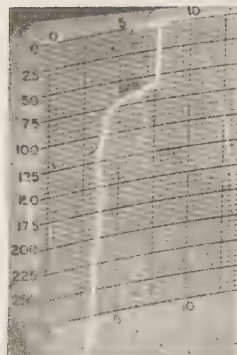


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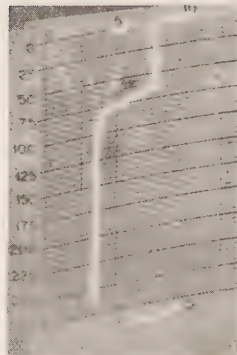




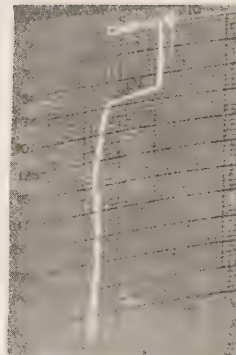
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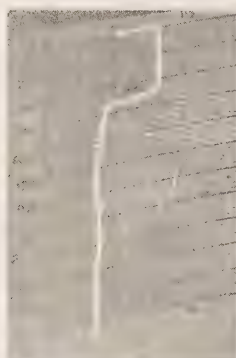
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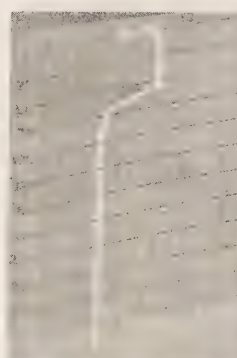
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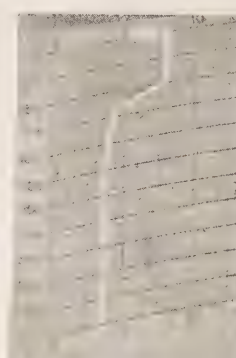
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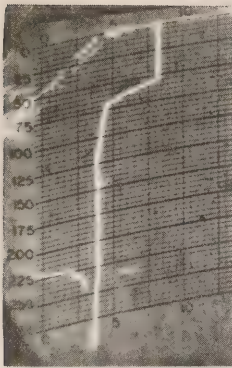
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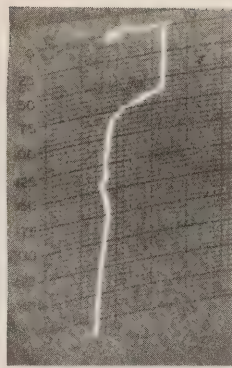
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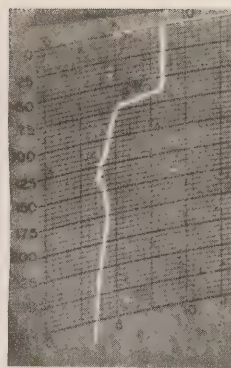
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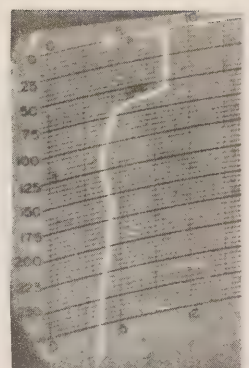
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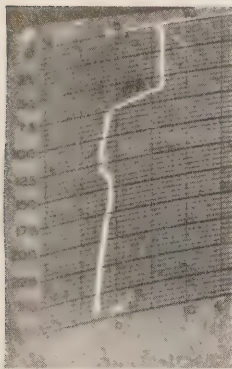
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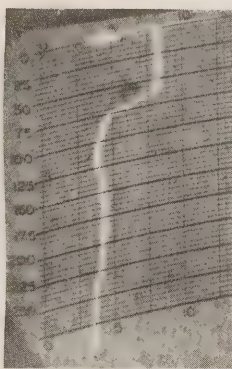
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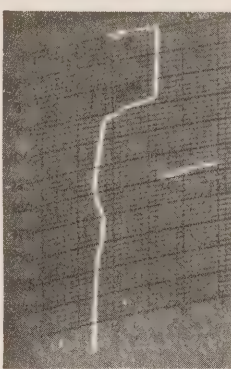
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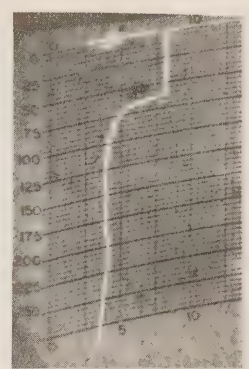
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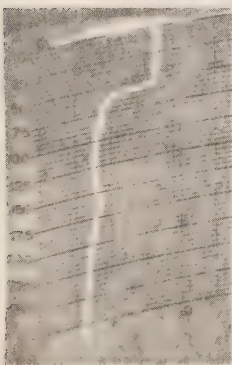
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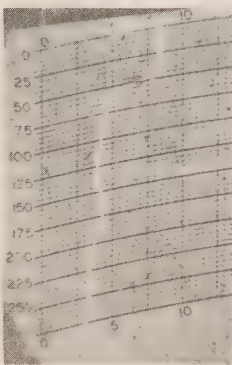
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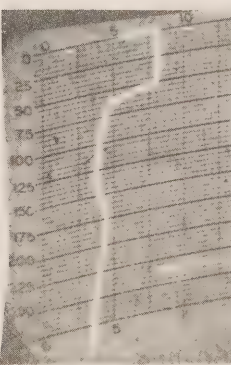
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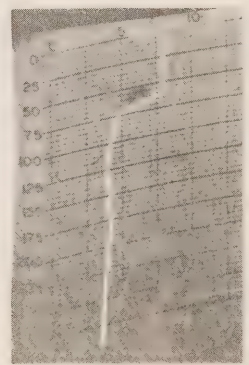
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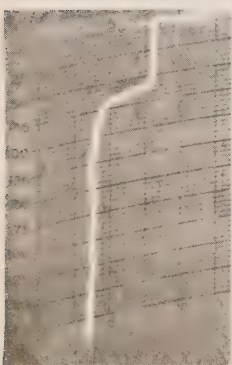
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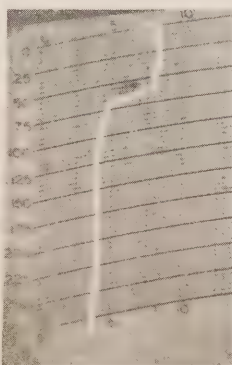
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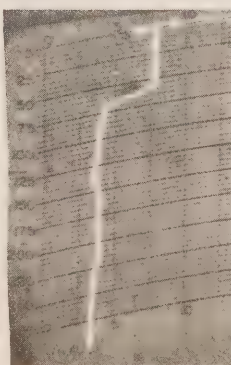
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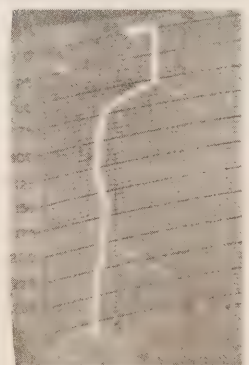
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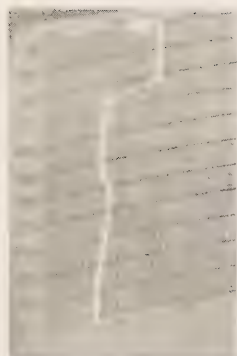
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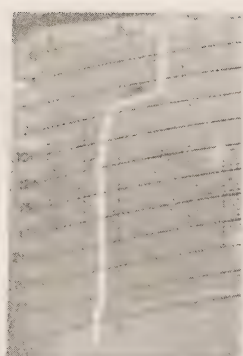
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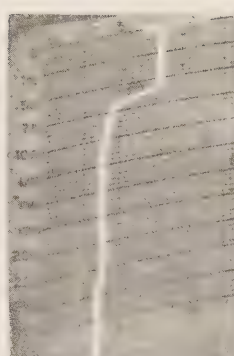
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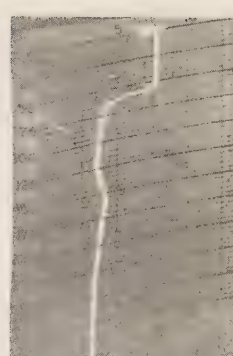
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146



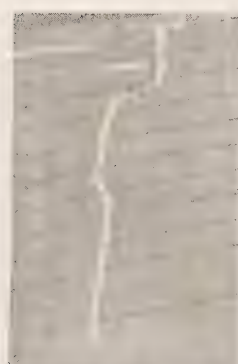
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148



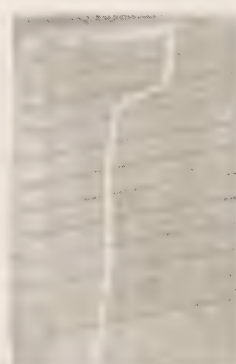
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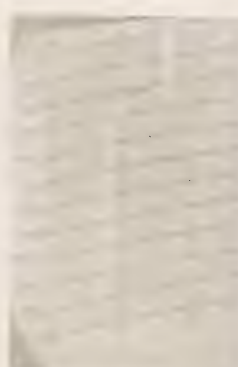
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157



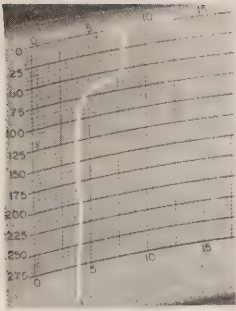
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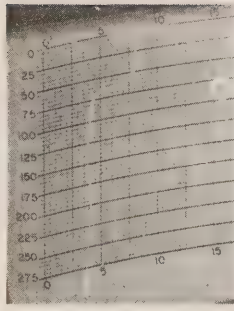
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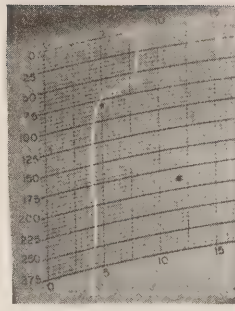
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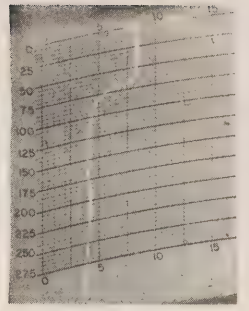
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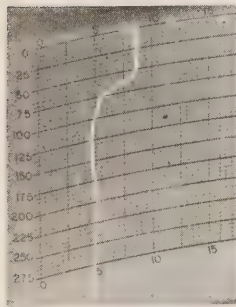
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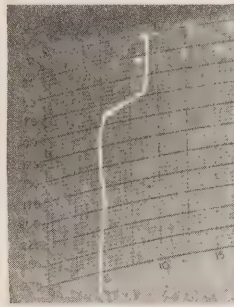
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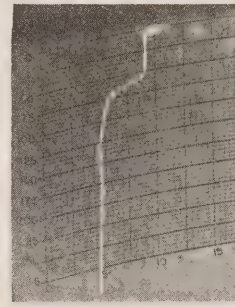
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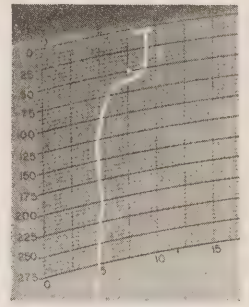
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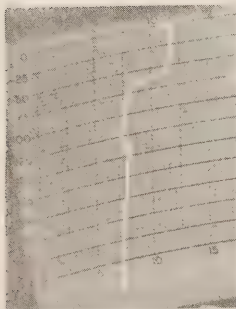
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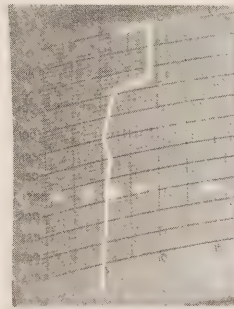
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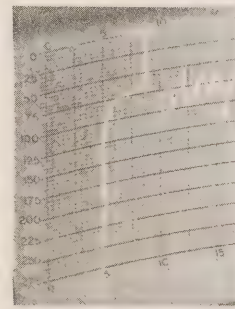
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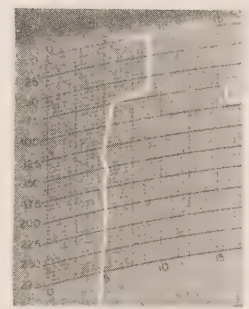
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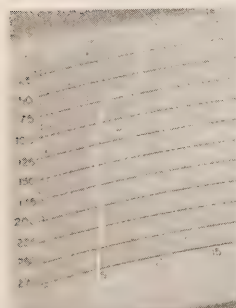
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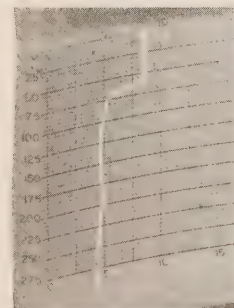
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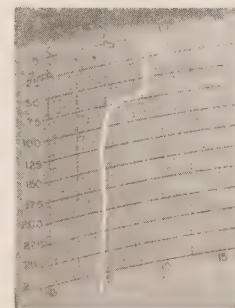
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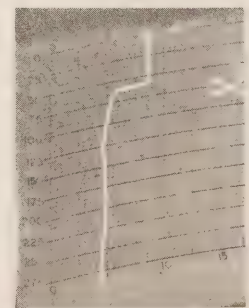
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174



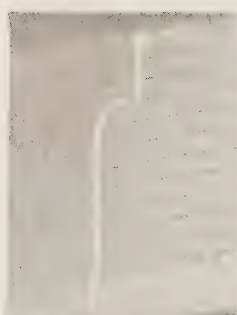
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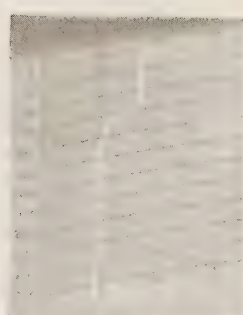
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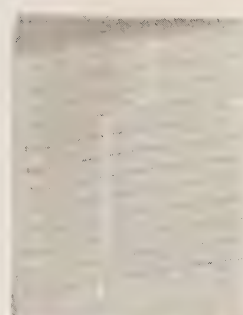
177



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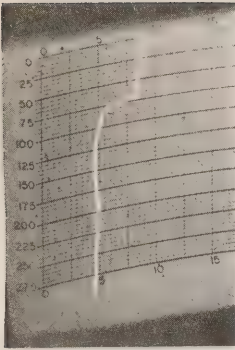
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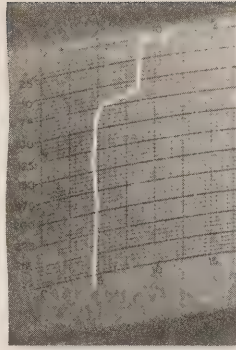
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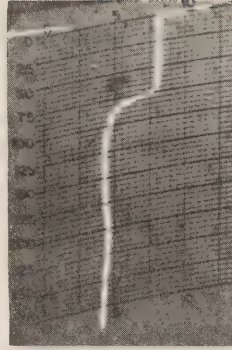
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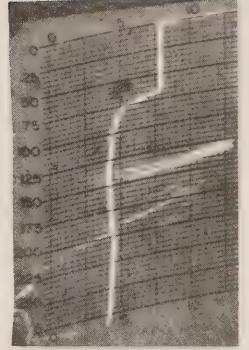
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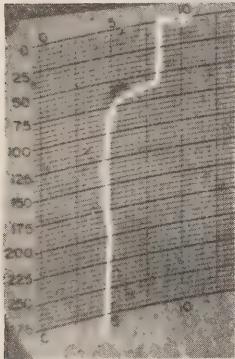
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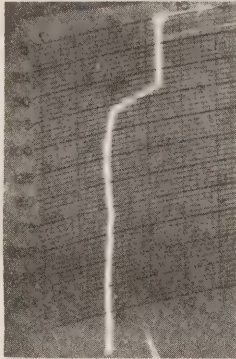
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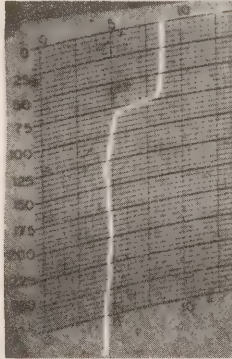
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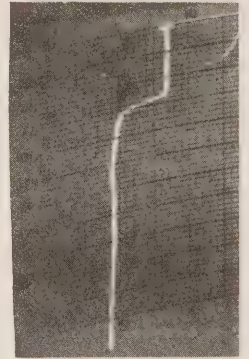
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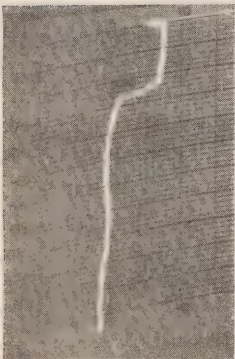
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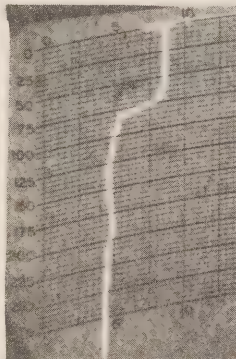
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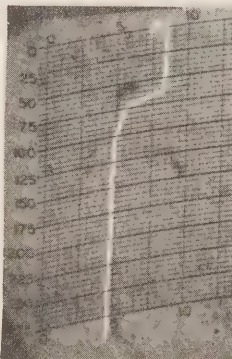
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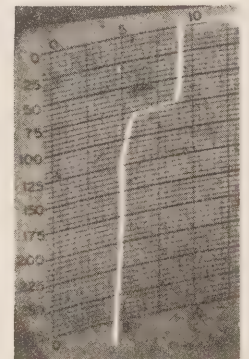
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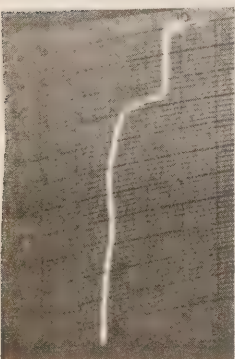
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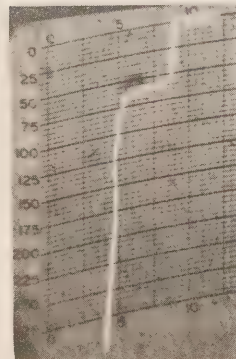
203



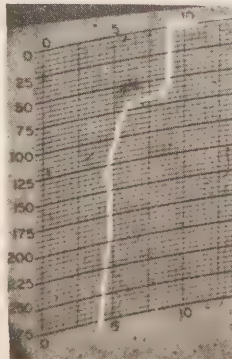
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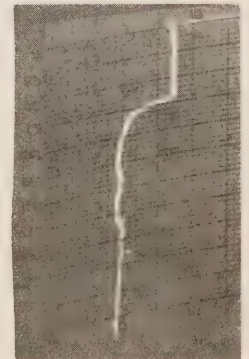
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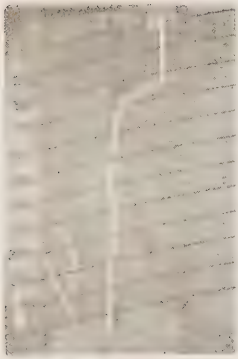
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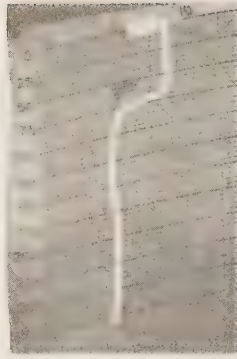
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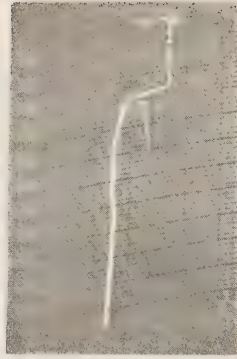
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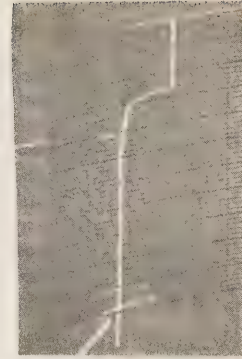
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210



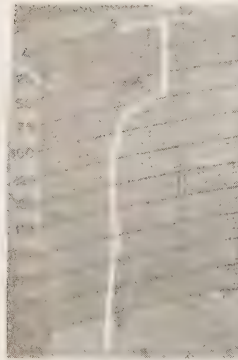
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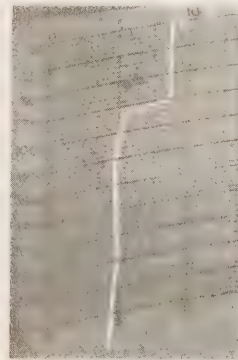
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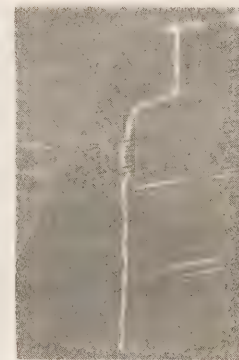
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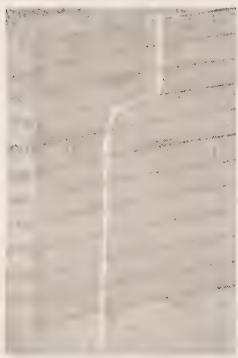
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215



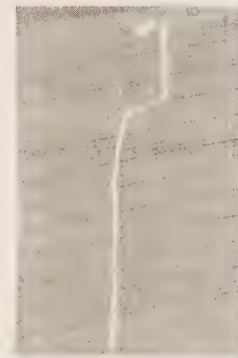
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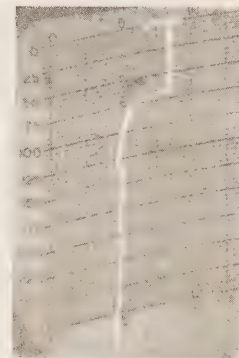
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218



219



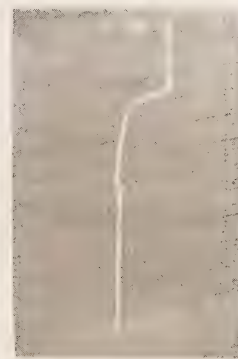
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221



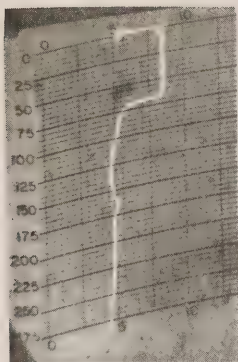
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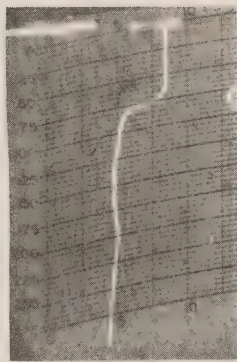
223



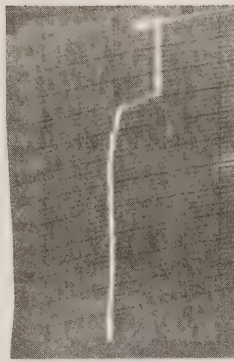
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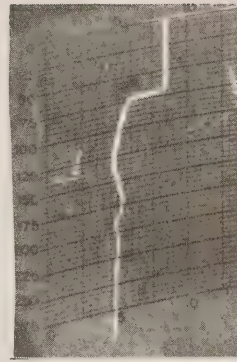
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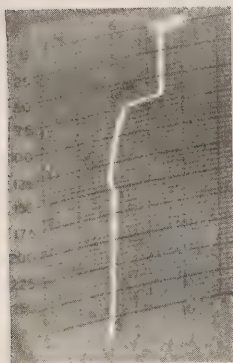
226



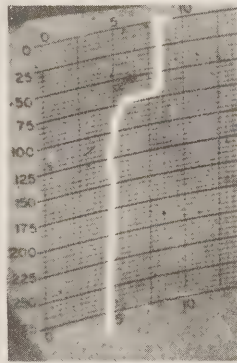
227



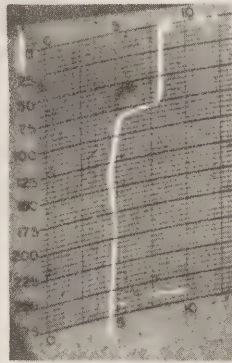
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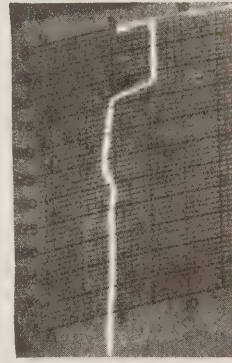
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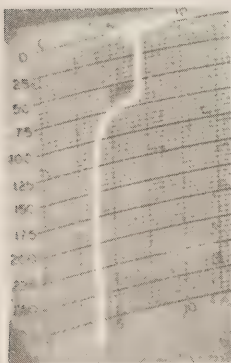
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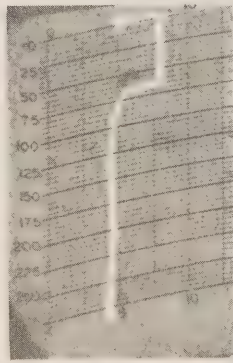
231



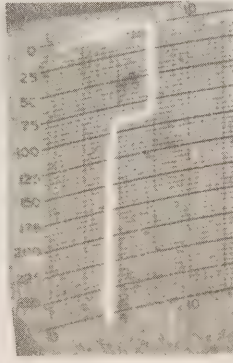
232



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SECTION V

Surface Salinity Data

SURFACE SALINITY OBSERVATIONS

Date - Time	Position		Salinity
G.M.T.	Latitude	Longitude	‰
CCGS "VANCOUVER" - P-67-4			
67-09-16-11.0	48°38'N	126°00'W	31.662
17-00.0	48°42'	126°40'	31.684
17-02.0	48°47'	127°40'	32.055
17-13.2	49°00'	129°00'	32.123
17-16.0	49°11'	130°00'	32.526
17-17.0	48°56'	131°41'	32.421
17-20.3	49°03'	132°40'	32.349
18-02.9	49°22'	135°40'	32.500
18-08.0	49°15'	137°40'	32.456
18-10.0	49°25'	138°40'	32.432
18-18.0	49°22'	139°40'	32.443
18-20.5	49°32'	140°38'	32.472
19-01.8	49°49'	142°40'	32.491
19-06.0	50°03'	143°35'	32.445
20-00.0	50°07'	144°56'	32.484
21-00.0	49°57'	144°59'	32.483
22-00.0	50°00'	144°54'	32.459
23-00.0	50°00'	145°00'	32.494
24-00.0	49°57'	145°15'	32.524
25-00.0	50°05'	144°55'	32.489
26-00.0	49°55'	145°00'	32.490
27-00.0	50°00'	144°57'	32.492
28-00.0	50°07'	144°58'	32.484
29-00.0	49°43'	145°00'	32.479
30-00.0	50°04'	144°56'	32.466
67-10-01-00.0	49°59'	144°55'	32.467
02-00.0	50°03'	144°55'	32.478
03-00.0	50°04'	144°48'	32.465
04-00.0	50°05'	145°00'	32.486
05-00.0	50°00'	145°02'	32.515
06-00.0	49°53'	144°59'	32.508
07-00.0	50°03'	144°55'	32.497
08-00.0	50°05'	144°55'	32.480
09-00.0	49°52'	145°02'	32.485

SURFACE SALINITY OBSERVATIONS

Date - Time	Position		Salinity
G.M.T.	Latitude	Longitude	‰
CCGS "VANCOUVER - P-67-4			
67-10-10-00.0	49°58' N	145°07' W	32.486
11-00.0	49°59'	145°06'	32.478
12-00.0	50°02'	144°57'	32.480
13-00.0	50°02'	145°00'	32.485
14-00.0	49°57'	145°12'	32.481
15-00.0	49°58'	145°12'	32.499
16-00.0	50°01'	144°50'	32.497
17-00.0	49°58'	144°50'	32.504
18-00.0	49°58'	145°04'	32.571
22-00.0	50°02'	144°56'	32.547
23-00.0	49°49'	144°46'	32.518
23-15.0	49°40'	143°40'	32.499
23-23.0	49°40'	141°40'	32.469
24-	49°41'	140°40'	32.433
24-09.7	49°29'	137°40'	32.445
24-12.2	49°26'	136°40'	32.560
24-15.0	49°15'	135°40'	32.498
24-17.5	49°18'	134°40'	32.444
24-20.8	49°07'	133°40'	32.445
24-23.5	49°05'	132°40'	32.436
25-02.2	49°04'	131°40'	32.285
25-05.0	49°00'	130°40'	32.214
25-10.5	48°51'	128°40'	32.342
25-13.0	48°40'	127°40'	31.804
25-16.0	48°42'	126°40'	31.825
25-17.8	43°38'	126°00'	31.732

SURFACE SALINITY OBSERVATIONS

Date - Time	Position		Salinity
G.M.T.	Latitude	Longitude	‰
CCGS "QUADRA" - Patrol No. 1			
67-10-24-00.3	49°58' N	142°50' W	32.488
25-00.0	50°00'	144°53'	32.557
26-00.0	49°52'	145°03'	32.501
27-00.0	49°52'	145°00'	32.574
28-00.0	49°58'	145°03'	32.544
29-00.0	49°52'	145°28'	32.530
30-00.0	49°16'	145°36'	32.589
31-00.0	50°06'	145°21'	32.540
67-11-01-00.0	50°08'	144°52'	32.577
02-00.0	50°03'	145°10'	32.539
03-00.0	50°01'	145°13'	32.560
04-00.0	50°00'	145°05'	32.572
05-00.0	50°01'	145°05'	32.499
06-00.0	50°17'	145°08'	32.510
07-00.0	49°59'	145°01'	32.488
08-00.0	50°07'	145°00'	32.542
09-00.0	49°56'	145°01'	32.529
10-00.0	50°00'	145°00'	32.511
11-00.0	50°02'	144°57'	32.549
12-00.0	50°10'	144°45'	32.529
13-00.0	49°58'	145°01'	32.553
14-00.0	49°48'	144°50'	32.205
15-00.0	50°14'	145°12'	32.502
17-00.0	50°07'	145°06'	32.500
18-00.0	49°53'	145°06'	32.840
19-00.0	49°50'	145°00'	32.524
20-00.0	49°57'	145°17'	32.794
21-00.0	50°02'	144°58'	32.538
22-00.0	50°05'	145°00'	32.523
23-00.0	50°10'	145°00'	32.530
24-00.0	50°00'	145°00'	32.519
25-00.0	49°58'	144°57'	32.611
26-00.0	50°00'	144°58'	32.557
27-00.0	49°49'	144°50'	32.725
28-00.0	50°06'	145°00'	32.501
29-00.0	50°12'	146°15'	32.580
30-00.0	50°00'	147°00'	32.917
67-12-01-00.0	50°13'	145°15'	32.470

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